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New Jersey State Library

NEW JERSEY SUPREME COURT

CITY OF ELIZABETH,
Prosecutor,
vs.
BOARD OF PUBLIC UTILITY COMMISSIONERS, ELIZABETHTOWN WATER COMPANY,
Respondents.
} *On Certiorari*

NOTICE OF APPEAL AND GROUNDS OF APPEAL.

To Thomas Brown, Attorney and of Counsel for the Board of Public Utility Commissioners and Collins and Corbin, Attorneys and of Counsel for Elizabethtown Water Company.

Take notice that the City of Elizabeth, appeals to the Court of Errors and Appeals in the last resort in all causes in New Jersey, from the whole of the judgment entered in this cause on the following grounds:

1. Because the Supreme Court erred in giving judgment for the defendants instead of the prosecutor.

2. Because the Supreme Court erred in giving judgment for the defendants, in that it failed to give effect to any and all of the reasons alleged by the prosecutor in said cause, and brought up with the record.

3. Because the Supreme Court erred in giving judgment for the defendants, in that it failed to exercise independent judgment, both as to the law and the facts, in its review in said cause of the order and proceedings of the Board of Public Utility Commissioners.

4. Because the Supreme Court erred in giving judgment for the defendants, in that it construed and gave effect to the statutes of the State of New Jersey as preventing said court from exercising independent judgment both as to the law and the fact in said cause.

5. Because the Supreme Court erred in giving judgment for the defendant, in that it failed to find

that the proceedings of the Board of Public Utility Commissioners were irregular and informal, and that such irregularity and informality tended to defeat or impair the substantial right or interest of the prosecutor.

(Signed) JOSEPH T. HAGUE,
Attorney for and of Counsel with the
City of Elizabeth,
Prosecutor-Appellant.

Service of the within notice of appeal and grounds of appeal is hereby acknowledged July 17th, 1923.

(Signed) THOMAS BROWN,
Attorney Board of Public Utility Commissioners.

(Signed) COLLINS & CORBIN,
Attorney Elizabethtown Water Company.

NEW JERSEY SUPREME COURT

FEBRUARY TERM, 1923

CITY OF ELIZABETH,
Prosecutor,

vs.

BOARD OF PUBLIC UTILITY COMMISSIONERS,
Defendant.

ELIZABETHTOWN WATER COMPANY,
Defendant.

Argued February 20, 1923
Decided June 5, 1923
On writ of certiorari
Before Justices Kalisch, Black and Katzenbach.
Joseph T. Hague, Esq., for the Prosecutor and Frank A. Sommer, of counsel.
Thomas Brown, Esq., for the Board of Public Utility Commissioners.
Collins & Corbin, Esqrs., for the Elizabethtown Water Company, Wm. M. Wherry, Jr., Esq. and Clement K. Corbin, Esq., of counsel.

Per Curiam:

The writ of certiorari in this case brings up for review an order made by the Board of Public Utility Commissioners increasing the rates permitted to be charged by the Elizabethtown Water Company for water service. The prosecutor is the City of Elizabeth.

The Elizabethtown Water Company was created by a special act of the Legislature in 1854, for the purpose of serving with water the City of Elizabeth and adjacent communities. The territory rapidly developed and the Company was obliged to secure water from numerous sources other than the Elizabeth River, which was its original source of supply. The charac-

ter of the service rendered by the Company was, prior to this proceeding, a matter which came before the Board of Public Utility Commissioners. On June 8, 1920, the Board made an order requiring the installation of meters and other equipment which called for a large investment of additional capital. No increase in rates was allowed the Company at this time. This order was set aside on June 7, 1921, by the Supreme Court as unreasonable, which held that the Company could not be required "to make bricks without straw." After this decision the Company made application for an increase of rates. The schedule suggested by the Company was not adopted. The Board made a new schedule. The burden of showing that this schedule is not just and reasonable is upon the prosecutor, in view of the fact that it is not a schedule prescribed by the Company.

The first point argued by the prosecutor is that the Board took into consideration, in its decision, evidence which was not a part of the record. It appears from the report that the engineers of the Board checked the inventory and the appraisal was subjected to a careful analysis by a study of the unit prices and a comparison of the prices used with similar figures used by the Board in other appraisal work. The prosecutor contends that the work of the engineers of the Board and the Board's comparison was not embodied in the record and hence a result was arrived at and decision made outside of the record, which constitutes error. We think the Board was within its powers in using the knowledge which it had obtained in other proceedings of unit prices and in using its engineers to check the inventory. It would be almost impossible for any Board not to use the knowledge which it has obtained in other proceedings in weighing the evidence in the case which it has under consideration, and to mould the form of its schedule along the lines of those schedules which had been tested in the courts and approved. The burden is on the prosecutor to show in what

respect the order impairs its substantial right. The Public Utility Act provides that "No order shall be set aside in whole or in part for any irregularity or informality in the proceedings of said Board, unless such irregularity or informality tends to defeat or impair the substantial right or interest of the prosecutor in certiorari." We feel that the prosecutor, in this respect has not sustained the burden the statute imposes.

The prosecutor next contends that the Company is not entitled to an advance in rates until it is rendering proper and adequate service to the public; that by reason of the Company's failure to comply with the orders of the Board for the improvements of its service, it was not in a position to ask for relief. The prosecutor desires to have applied the maxim of equity that one who comes into a court of equity must come in with clean hands. In other words, that no relief is to be offered a utility if that utility is not rendering adequate and proper service, even though the failure to render such service is due to a deficient return upon the actual capital invested and an inability to attract capital to the enterprise by reason of such return, rather than to an arbitrary refusal to improve the service when the Company has at its command sufficient funds for that purpose. In the present case if this doctrine was applicable, because of the Company's failure to obey the order of June 8, 1920, it could not be applied, in view of the fact that this court held that the Company was under no obligation to make the improvements ordered in view of the financial inability of the Company to make them. If other defects of service be relied on by the prosecutor we are of the opinion that such defects of service arose from insufficient rates and should not prevent the increase of rates granted by the Board. The policy of the law is and should be to aid utilities to properly function and to render adequate service to the public by permitting rates to be charged for the service rendered which will yield an adequate return upon the capital invested,

maintain the property, and attract capital. The policy should never be one of destruction. O'Brien vs. Public Utility Board, 92 N.J.L. 44. A starved utility is in no better position to render proper service than a starved horse or a motor car without fuel. We think the evidence amply justified the increase in rates granted.

The prosecutor also attacks the rate base in several particulars, contending that the Board in its valuation took into consideration matters which should not have been included and also erred in fixing too high allowances for overhead, etc. There was evidence which justified the results arrived at by the Board and they will not be disturbed in view of the fact that there is evidence which will support the finding of the Board.

We find that the Board did not value the easements as if owned in fee but valued them as easements. We approved the inclusion of the entire valuation of the 36" main, assuming for the time being it is larger than is now required. It was constructed according to dimensions approved by a competent engineer. If it was mistakenly constructed too large, which we do not think, a utility should not be punished for a mistake of judgment in such a case any more than a physician should be prevented from charging his fee in a case where he may have made a mistake in his diagnosis. This case is different from that of the Tintern Manor Water Co. 70 N.J.L. 91, where the entire plant was constructed to furnish a supply of water grossly in excess of reasonable requirements.

We find nothing unreasonable in the apportionment of the cost of fire service. It was made according to principles established and approved.

The writ is dismissed and the order of the Board affirmed.

NEW JERSEY SUPREME COURT

CITY OF ELIZABETH,
Prosecutor,
vs.
BOARD OF PUBLIC UTILITY COMMISSIONERS AND ELIZABETHTOWN WATER COMPANY,
Defendants.

Rule for Judgment of Affirmance.

The court having inspected the transcript and proceedings, together with the report and order of the Board of Public Utility Commissioners returned with the certiorari in this matter, and the reasons filed by the prosecutor, and having heard the argument of counsel thereon and maturely considered the same,

Do Order that the report and order of said Board of Public Utility Commissioners be in all things affirmed.

Rule entered this 18th day of June, 1923.

On motion of
COLLINS & CORBIN,
Attorneys of Defendant,
ELIZABETHTOWN WATER COMPANY.

A true copy
EDWARD J. KELLEHER,
Clerk.

MacCrellish & Quigley Co., Printers, Trenton, N. J.

New Jersey Supreme Court.

CITY OF ELIZABETH,
Prosecutor,
vs.
BOARD OF PUBLIC UTILITY COMMISSIONERS, ELIZABETHTOWN WATER CO., ET AL.,
Respondents.

WRIT OF CERTIORARI.

(*Filed May 15, 1922.*)

(*Returnable May 15, 1922.*)

NEW JERSEY, ss.

[L. S.] The State of New Jersey to Board of Public Utility Commissioners of the State of New Jersey, Greeting:

We being willing, for certain reasons, to be certified of certain proceedings had before your Board in the matter of the application of the Elizabethtown Water Company, Piscataway Water Company, Raritan Township Water Company, Watchung Water Company, for an increase in rates, and for the approval by your Board of a new schedule of rates filed by said companies, and the findings and report made by your Board upon the evidence taken before you in such proceedings.

We do command you that said proceedings, together with your findings and report and the evidence taken before you and any order or orders issued thereon or any new schedule of rates filed by said companies there-

under, together with all other things touching and concerning the same, as fully and entirely as before you they remain, to our Justices of our Supreme Court of Judicature at Trenton, on the fifteenth day of May, 1922, you certify and send, together with this wrnt, that therein may be done what of right and according to the laws of this State should be done.

Witness, William S. Gummere, Esquire, Chief Justice of our Supreme Court at Trenton, this second day of April, 1922.

JOSEPH T. HAGUE,
Attorney.

ENOCH L. JOHNSON,
Clerk.

Allowed, but without stay.

J. J. BERGEN,
Jus. Sup. Ct.

NEW JERSEY SUPREME COURT.

CITY OF ELIZABETH,
Prosecutor,
vs.
BOARD OF PUBLIC UTILITY COMMISSIONERS,
Defendant.
} On Certiorari.

RULE ADMITTING ELIZABETHTOWN WATER COMPANY AS PARTY DEFENDANT.

(*Filed May 22, 1922.*)

The prosecutor and defendant consenting thereto it is on this 22d day of May, 1922, ordered that the Elizabethtown Water Company be and it hereby is made a party defendant in this cause.

On motion of

J. S. C.

Let this rule be entered.

J. J. BERGEN,
Jus. Sup. Ct.

Rule entered this day of May, 1922, on motion of
COLLINS & CORBIN,
Attorneys for Elizabethtown Water Company.

We consent to the making and entry of the foregoing rule.

THOMAS BROWN,
Attorney of Defendant.
JOSEPH T. HAGUE,
Attorney of Prosecutor.

NEW JERSEY SUPREME COURT.

THE CITY OF ELIZABETH,
Prosecutor,
vs.
BOARD OF PUBLIC UTILITY COMMISSIONERS OF THE STATE OF NEW JERSEY AND THE ELIZABETHTOWN WATER COMPANY ET AL.,
Respondents.
} On Certiorari.

REASONS.

(*Filed May 24, 1922.*)

The Prosecutor assigns the following reasons upon which it will rely for setting aside the order of the Board of Public Utility Commissioners of the State of New Jersey, dated March 15th, 1922, entitled "In the matter of the rates of the Elizabethtown Water Company, Piscataway Water Company, Raritan Township Water Company and Watchung Water Company," and the report upon which said order is based and which, by reference thereto, therein is made part of said order.

Because—

1. Said order, in whole and in its several parts, is without the jurisdiction of the Board of Public Utility Commissioners of the State of New Jersey, in that:

(a) The said order was not made after hearing upon notice as required by the statute under which said Board exists. The said order was based upon statements by engineers of the Board, made ex-parte and not in the hearings held before the Board, and therefore not subject to cross-examination; and was made upon consideration of data not produced before the Board in such hearings, which data, in consequence, the parties

before the Board in such hearings had no opportunity to meet.

(b) The date which said order bears is not, as the statute under which said Board exists requires, the date upon which said order was made, but is a date which ante-dates the day on which said order was made.

2. The schedule of rates and the rates fixed by said order for the Elizabethtown Water Company, are, and each of them is, excessive, unjust and unreasonable, and they are not, nor are any of them, just and reasonable.

3. The schedule of rates and the rates fixed by said order are, and each of them is, unjustly discriminating.

4. The said order adopts in the schedule of rates and the rates thereby fixed for Elizabethtown Water Company, and as the basis thereof, an unjust, unreasonable and unjustly discriminating classification.

5. The Elizabethtown Water Company did not meet before said Board the burden of proof to show that any increase in its existing rates, or any of them was just and reasonable, which burden the statute, under which said Board exists, places upon the said Company.

6. There was no evidence before said Board reasonably supporting said order, either in whole or in its several parts, nor the schedule of rates in whole, or in its several parts, which said order fixes for the Elizabethtown Water Company.

7. The said order was made arbitrarily and in making the same the Board improperly failed to consider and disregarded the testimony and exhibits produced before it on behalf of the prosecutor.

8. The said order was made arbitrarily and in making the same, the Board improperly solely regarded the testimony and exhibits produced before it on behalf of the Elizabethtown Water Company.

9. In making said order and in the schedule of rates thereby fixed for the Elizabethtown Water Company the Board ignored the finding made by it that the service furnished by said Company was inadequate and im-

proper and would continue so to be and disregarded the value of the service rendered as an element in just and reasonable rates.

10. In making said order, and in the schedule of rates fixed thereby for the Elizabethtown Water Company, the said Board failed to fix the rates in such schedule on the basis of the service actually rendered, which service said Board found to be inadequate and improper.

11. Without requiring the Elizabethtown Water Company to furnish adequate and proper service, and on a finding that the service furnished was and would continue to be inadequate and improper, the Board, by said order, prescribed the rates thereby fixed for the Elizabethtown Water Company as though the service furnished and to be rendered by said Elizabethtown Water Company was adequate and proper, and in the rates so fixed, required the making of compensation for a service not rendered.

12. In making said order and in the rates thereby fixed for the Elizabethtown Water Company the Board assumed as the measure of the value of the property the cost to reproduce the same and disregarded and failed to take into account the testimony produced before it of the original cost of the property; and disregarded and failed to take into account the testimony as to the cost of a comparative plant; and disregarded and failed to take into account the testimony that the property and equipment could be replaced in part with more efficient units at a cost substantially less than the cost to reproduce the existing units; and disregarded and failed to take into account the testimony that the service furnished could be rendered at less cost from another available supply.

13. In making said order, and in the rates thereby fixed for the Elizabethtown Water Company the Board included in its calculations the value of land neither owned by the Elizabethtown Water Company nor used for the purpose of supplying water to its consumers; gave to lands owned and used by said Company an in-

crement of value by reason of its devotion to the public use, and so in excess of the value of like contiguous and neighboring land; included the value of the fee in lands over which the Company had a mere right of way; the value of structures (particularly Chilton Street Reservoir), neither used nor useful in the service rendered; though cement-lined pipe was actually in use, which pipe was inadequate and obsolete, gave to such pipe the value of non-existent cast-iron pipe, on the assumption that such inadequate and obsolete pipe would, at some time in the future, when the financial condition of said company admitted, be replaced by such cast-iron pipe, and included in its calculations the whole of the value of pipe lines not owned by the said Company, but owned by other companies, and built primarily for the future use of other companies, and used only to a limited extent to supply the consumers of the Elizabethtown Water Company.

14. In making said order and in the rates thereby fixed for the Elizabethtown Water Company, the Board in its calculations added theoretical overheard charges to the actual cost of works built by said Company in the years 1919 and 1920, whereas, if such charges were in fact incurred in connection with the construction of such works, the same were carried by the Company in its operating expenses. No reduction on this account was made by the Board in the operating expenses of said Company. A duplication in allowance thereby entered into such calculations.

15. In making said order and in the rates thereby fixed for the Elizabethtown Water Company the Board in its calculations included in the rate base (value of property) works owned by the Middlesex Company, built with money loaned by the Elizabethtown Water Company; allowed a return thereon; and allowed as well, interest on the money so loaned, as an operating expense.

A duplication of allowance in such calculations was thereby effected.

16. In making said order, and in the rates thereby fixed for the Elizabethtown Water Company the Board improperly included in the rate base (value of property) an allowance of five hundred and seventy-eight thousand, one hundred and sixty-eight ($578,168) dollars "for appreciation," which allowance is excessive, and is not reasonably supported by the testimony.

17. In making said order and in the rates thereby fixed for the Elizabethtown Water Company, the Board improperly included in the rate base (value of property) an allowance of four hundred and twelve thousand, nine hundred and ninety-eight ($412,998) dollars "for intangibles." The going value of the property had been covered by the application of overheads in connection with the determination of the cost to reproduce the physical property. Such allowance was duplicated in the allowance "for intangibles." The allowance for intangibles improperly included hypothetical and speculative development costs; hypothetical and speculative promotors' profits, and brokerage charges, and, as well, other hypothetical and speculative charges.

There was no evidence reasonably to support said allowance for intangibles.

18. In making said order, and in the rates fixed thereby for the Elizabethtown Water Company the Board improperly made an inadequate deduction for accrued depreciation; accepted the estimates of said Company; ignored and failed to take into account the testimony produced on behalf of the Prosecutor, and ignored and failed to take into account the inadequacy, obsolescence and inefficiency of the works of said Company.

19. In making said order and fixing said rates for the Elizabethtown Water Company, the Board erred in calculating, and fixed at an excessive amount the operating expenses of said Company and erred in its calculation of and underestimated the net revenue that would result from operation under the rates so fixed by it.

20. In making said order and fixing said rates for the Eliabethtown Water Company the Board improperly and arbitrarily employed a method different from that employed in fixing the rates for the other companies involved.

21. In making said order and fixing said rates for Elizabethtown Water Company the Board effected an unjust and unreasonable discrimination as between flat rate and metered consumers.

22. In making said order and fixing said rates for Elizabethtown Water Company, the Board placed an undue burden upon flat rate consumers, unwarranted by the testimony and unsupported by the assumption made by said Board in its said report.

23. The schedule of rates and the rates fixed by said Board by said order for the Elizabethtown Water Company, will, as established by the testimony before said Board, yield more than a fair return upon the fair value of the property reasonably devoted by said Company to the public use.

24. In each of the particulars above set out, the Board erred in fact and in law, and said order and the rates thereby fixed for the Elizabethtown Water Company are therefore without the jurisdiction of the Board and are not reasonably supported by the evidence before the Board.

JOSEPH T. HAGUE,
Attorney for Prosecutor.

FRANK H. SOMMER,
Of Counsel.

Service acknowledged this 24th day of May, 1922.

COLLINS & CORBIN,
Attys. of Resp. Elizabethtown Water Co.

NEW JERSEY SUPREME COURT.

CITY OF ELIZABETH,
Prosecutor,
vs.
BOARD OF PUBLIC UTILITY COMMISSIONERS,
Respondent.
} On Certiorari.

RETURN TO WRIT.

To the Honorable the Justices of the Supreme Court of Judicature of New Jersey:

The Board of Public Utility Commissioners herewith sends to the Supreme Court of Judicature of the State of New Jersey a certain Report and Order made by the said Board the fifteenth day of March, nineteen hundred and twenty-two, together with all things touching and concerning the same, as fully and entirely as before said Board they remain, as it is within commanded.

In witness whereof the seal of said Board is hereto affixed and certified by the subscriber.

ALFRED N. BARBER,
[L. S.] *Secretary of the Board of Public Utility Commissioners of New Jersey.*

AMENDMENT TO RATE SCHEDULE.

(Filed March 1, 1921.)

STATE OF NEW JERSEY,
BOARD OF PUBLIC UTILITY COMMISSIONERS.

ELIZABETHTOWN WATER COMPANY.
AMENDMENT TO RATE SCHEDULE.

Pursuant to the Statutes of the State of New Jersey the Elizabethtown Water Company hereby amends its schedule of rates as follows:

	Now Charged	
For each one-story house,	$8.00	$12.00 per year
For each two-story house, [1]private dwelling,	10.00	15.00 per year
For each three-story house,	15.00	22.50 per year
Tenement rates for each family,	5.00	7.50 per year
For each bath,[1]	5.00	7.50 per year
For each closet,[1]	5.00	7.50 per year
For each lawn sprinkler,	4.00	6.00 per year
For first horse,	5.00	7.50 per year
For each horse thereafter,	2.00	3.00 per year
For each cow,	2.00	3.00 per year
For water pressure pump,	10.00	15.00 per year
For each urinal,	5.00	7.50 per year
For each saloon, store, laundry, etc.,	8.00	12.00 per year
For concrete work,	1½c.	2¼c. per cu. yd.
For brick work,	10c.	15c. per th. brick

[1]Less 10 per cent, for prompt payment.

Hydrant rates in Elizabeth, Linden, Hillside and Union Townships, $15.00 per year. ($10.00.)

Hydrant rates in Boroughs of Linden and Roselle, $37.50 per year. ($25.00.)

Hydrant rates on salt water line in City of Elizabeth, $7.50 per year. ($5.00.)

There is a discount of ten per cent. (10%) allowed on all bills payable in advance, if paid within thirty days after due date.

Meter Rates

$1.75—$2.63 per th. cu. ft. for first 5,000 cu. ft. per quarter
$1.50—$2.25 per th. cu. ft. for next 10,000 cu. ft. per quarter
$1.05—$1.53 per th. cu. ft. for next 485,000 cu. ft. per quarter
$0.94—$1.41 per th. cu. ft. for over 500,000 cu. ft. per quarter

Minimum Meter Charges

5/8" Meter	$3.25 per quarter	3" Meter	$37.50 per quarter—$25.00
3/4" Meter	4.75 per quarter	4" Meter	52.50 per quarter— 35.00
1" Meter	7.50 per quarter	6" Meter	75.00 per quarter— 50.00
1½" Meter	15.00 per quarter	8" Meter	120.00 per quarter— 80.00
2" Meter	17.50 per quarter	10" Meter	180.00 per quarter—130.00

This rate is to be effective April 1, 1921, but will not be billed until October 1, 1921.

Dated, Elizabeth, N. J.,
March 1, 1921,

ELIZABETHTOWN WATER COMPANY,
By JULIAN H. KEAN,
President.

BOARD OF PUBLIC UTILITY COMMISSIONERS,
STATE OF NEW JERSEY.

ELIZABETHTOWN WATER COMPANY. RE AMENDMENT OF RATE SCHEDULES DATED MARCH 1, 1921. } STATEMENT.

To the Board of Public Utility Commissioners, State of New Jersey:

Please take notice, that in pursuance of the Statutes of the State of New Jersey this Company has filed herewith an amendment to its rate schedules to take effect on April 1, 1921.

The following statement is made in connection with the said amendment:

1. The name of the public utility is ELIZABETHTOWN WATER COMPANY.

2. The municipalities in which it operates are:

City of Elizabeth,
Borough of Linden,
Boroughs of Roselle and Roselle Park, and
Townships of Linden, Clark, Union, Hillside and Springfield.

3. Notice of said amendment in the form annexed, marked Exhibit A, will be published in three newspapers of general circulation in the territory served, and will be served on the Mayors or Clerks of the respective municipalities.

4. The statement of the change in the schedule of rates is as follows: Submitted herewith is the said amendment, the effect of which is a uniform increase in the rates as at present charged by this Company of fifty per cent. (50%).

5. The reasons why the said change or alteration is made is that this Company has had great increases in its operating costs and taxes and other expenses since the existing rate to which this amendment is made was established. The said increases have made it imperative that the Company should secure additional revenue in order to obtain a fair return on the fair value of its property. The Company is faced with the necessity of making extensive additions and improvements to its plant, and in order to obtain the necessary capital it will have to increase its net earnings.

The Company has been securing water from the Piscataway Water Company, Raritan Township Water Company and the Watchung Water Company, and during the past has paid these companies less for the water derived from them and less for the use of pipe line and equipment than the actual operating cost, and a fair return on the fair value of the property employed for the

service of this Company, and has been notified by the said companies of increases in the charges made for the said water and said services. In order to meet the said increases it will be necessary for this Company to secure additional net revenue.

6. The following is the estimate of additional revenue required:

Appraised value of property (1918), ...	$3,750,000
Fair return, ...	300,000
Estimated operating expenses, ...	404,443
Taxes, ...	100,000
Annual Depreciation Reserve, ...	50,000
Required revenue, ...	$854,443
Increase over estimated revenue, ...	286,000

The above is based on an appraisal made as of December 31, 1918, and includes the additional charges due to other companies for water and service purchased from them as of that date.

For comparison, the following additional data is submitted:

Appraised value, 1918, ...	$3,750,000.00
Capital additions, 1919, ...	156,792.28
Capital additions, 1920, ...	102,165.13
Depreciation, 1919, ...	34,981.15
Depreciation, 1920, ...	36,977.19
Funded debt, 1920, ...	500,000.00
Notes, 1920, ...	165,000.00
Capital stock, 1920, ...	981,520.00

Fair return not less than 8%.

	1918.	1919.	1920.
Operating Expenses, ...	$317,268.36	$341,598.00	$394,547.45
Taxes, ...	55,059.59	69,181.32	69,467.40

Estimated Increases in 1921—

Taxes, ...	$41,000
Payments to other companies, ...	130,000

Revenues—	1918.	1919.	1920.
Sales of Water, ..	$571,461.34	$602,743.75	$634,590.27
Other sources, ..	13,561.70	14,393.06	18,222.94
Total, ..	$585,023.04	$617,136.81	$652,813.21
Interest on Debt, ...	20,000.00	26,666.66	30,000.00
Rents paid, ...	600.00	900.00	1,200.00
Dividends, ...	98,152.00	98,152.00	98,152.00

Dated March 1, 1921.

ELIZABETHTOWN WATER COMPANY,

[L. S.] By JULIAN H. KEAN,

President.

EXHIBIT A.

Notice of Increase in Rates.

Elizabethtown Water Company,
Elizabeth, New Jersey,
March 1, 1921.

To the Public:

Elizabethtown Water Company hereby gives notice that it has filed with the Board of Public Utility Commissioners, at its office in the State House, Trenton, New Jersey, an amendment to its schedule of rates, to take effect April 1, 1921. Bills for water supplied at the new rates through meters will not be issued until the 1st of July next, and bills for water not supplied through meters will not be issued until the 1st of October next, so that ample opportunity will be given prior to those dates for the Board of Public Utility Commissioners to pass upon the reasonableness of the increase.

The Company's schedule of rates now in force was fixed before the war, and before the enormous increase in cost of operation, maintenance, labor and taxes had occurred. Those increases have been so great that the

Company is now earning but a trifling return on the cost or value of its property. It is necessary that the Company's rates should be increased in order that its property and service may be maintained.

The Company has filed with its new schedule of rates a statement of the value of its property, and of its financial condition, operating expenses and earnings for the past three years, from which it appears that an increase of fifty per cent. (50%) of the rates now in force is necessary.

Respectfully,

[L. S.] JULIAN H. KEAN,
Elizabethtown Water Company.

William M. Wherry, Jr.
Frederic E. Mygatt.

WHERRY & MYGATT
40 WALL STREET
NEW YORK, March 5, 1921.

In re Elizabethtown Water Company

A. N. Barber, Esq.,
Clerk, Board of Public Utility Commissioners,
Trenton, New Jersey.

DEAR MR. BARBER:

In re Elizabethtown Water Company there was filed with you at Trenton on March 3 a proposed amendment to the rates of the Elizabethtown Water Company. On the second page of the amendment there is a misprint. Will you please correct this on the authority of this letter? The mistake is in the second item on page 2 under "Meter Rates". $3.25 should be $2.25. The present rate for 10,000 cubic feet is $1.50, and 50% increase would be $2.25 instead of $3.25.

Please inform me when this correction is made.

Very truly yours,

WM. M. WHERRY, JR.

WMW—JB

STATE OF NEW JERSEY,
BOARD OF PUBLIC UTILITY COMMISSIONERS.

In the Matter of the Application of the Elizabethtown Water Company for Proposed Increase in Rates.

ORDER SUSPENDING INCREASES.

(*Dated March 24 1921.*)

The Elizabethtown Water Company having submitted to the Board of Public Utility Commissioners an amendment to its rate schedule to become effective April 1st, 1921, and it appearing that the said amendment will result in increases in the existing rates of said Elizabethtown Water Company, the Board, on its own initiative, hereby calls a hearing to determine whether the said increases so submitted are just and reasonable, and fixes Thursday, the twenty-eighth day of April, 1921, at ten A. M., as the time, and its rooms, 790 Broad Street, Newark, New Jersey, as the place of the hearing hereby called.

The Board hereby directs its Secretary to mail a copy of this order to Julian H. Kean, Jr., President of the Elizabethtown Water Company, which copy so mailed shall constitute notice of the hearing hereby called.

Pending hearing and determination whether the increase, change or alteration submitted is just and reasonable, the Board

Hereby orders the same suspended until the first day of July, 1921, unless the Board, prior to that date, shall approve the same as just and reasonable.

This order shall be immediately effective.

Dated March 24th, 1921.

BOARD OF PUBLIC UTILITY COMMISSIONERS,
(Signed) By JOHN J. TREACY,
President.

[SEAL.]

Attest:

(Signed) ALFRED N. BARBER,
Secretary.

STATE OF NEW JERSEY,
BOARD OF PUBLIC UTILITY COMMISSIONERS.

In the Matter of the Application of The Elizabethtown Water Company for Proposed Increase in Rates.

ORDER FURTHER SUSPENDING INCREASES.

(Dated June 30, 1921.)

The Board of Public Utility Commissioners having issued an order suspending until the first day of July, 1921, certain increases, changes or alterations proposed to be made effective April 1st, 1921, by the Elizabethtown Water Company in its existing rates, and hearing not having been concluded within the period of three months covered by said order of suspension the Board, pending hearing and determination,

Hereby orders a further suspension of said increases, changes or alterations for a further period not exceeding three months from July 1st, 1921, unless the Board prior to the expiration of the said three months shall be satisfied that the increases, changes or alterations are just and reasonable and shall approve the same.

This order shall be immediately effective.

Dated June 30th, 1921.

BOARD OF PUBLIC UTILITY COMMISSIONERS,
(Signed) By JOHN J. TREACY,
President.

[SEAL.]

Attest:
(Signed) ALFRED N. BARBER,
Secretary.

STATE OF NEW JERSEY,
BOARD OF PUBLIC UTILITY COMMISSIONERS.

In the Matter of the Application of the Elizabethtown Water Company, Piscataway Water Company, Raritan Township Water Company. and Watchung Water Company for Approval of an Increase in Rates.

REPORT.

(*Dated March 15, 1922.*)

William M. Wherry, for the Petitioners.
Joseph T. Hague, for the City of Elizabeth.
John K. English, for the Township of Union.
R. P. F. Von Minden, for the Borough of Dunellen and Township of Piscataway.
John J. Kohn, for Arbor, New Jersey.

The question of the proposed rates to be charged by the four companies named above will be considered as one connected matter due to the fact that their operation is closely interconnected, as will be apparent from a short description of the companies.

Description.

The Elizabethtown Water Company was organized March 3d, 1854, under a special act of the Legislature. A plant was constructed in what is now practically the center of Elizabeth and service commenced April 1st, 1855. The pumping plant and the original reservoir were located on the bank of the Elizabeth River, the water being taken from a small pond made by the construction of a low dam adjacent to the pumping plant. At the time of the construction of the plant Elizabeth was quite a small town, having a population of approximately 9,000. The territory surrounding Elizabeth was occupied by comparatively large farms and the water of

the Elizabeth River was entirely suitable for drinking purposes.

As time went on the city extended its boundaries in every direction and the amount of water available from the river became insufficient and in danger of pollution due to the growth of the city. It therefore was necessary to find other sources of supply. From time to time since the original construction of the plant, other plants have been built, generally to the northwest from Elizabeth, the two principal ones being known as the Hammocks plant and the Springfield plant, both belonging to this company. In addition, water is impounded in a reservoir know as the Ursino Reservoir, from which it flows by gravity to the original pumping plant in the center of the city, some of the pumps in this original plant still being in use for the purpose of reinforcing the pressures in the city. Further additions to the supply were found to be necessary and water is now purchased from the Commonwealth Water Company, the Short Hills Water Company, the City of Rahway, the City of Newark, the Plainfield-Union Water Company, and the Middlesex Water Company. In addition to this, the Elizabethtown Water Company has financed the development of two pipe-line companies for the purpose of supplementing its water supply, the Piscataway Water Company and the Raritan Township Water Company. The Piscataway Water Company also operates a pumping plant just east of Bound Brook. Still more recently the Elizabethown Water Company has obtained control of the Watchung Water Company, which supplies Dunellen, for the particular purpose of obtaining the surplus water of that company.

Adequacy of Service.

To supply what was originally the main part of Elizabeth, but very low pressures were required. As the town grew to the northwest and west, higher pressures

were necessary. The extreme northern part of the territory is supplemented by a supply from Newark which comes in under higher pressure, and a high section in the western portion of Elizabeth is supplied directly from the mains of the Plainfield-Union Water Company, which system also operates on a higher pressure. Elizabeth, as originally developed, did not have very many high buildings, but with the growth of the city taller buildings have been erected, many of which are tenement houses, and the pressures in large areas of the city have become increasingly insufficient. Some three years ago the situation was extremely serious. Due, however, to the general industrial depression, the demand for water has somewhat decreased and waste of water has been lessened by metering many flat-rate customers. The service is not yet what it eventually must be made in order that the residents will have proper use of their facilities.

There are two principal difficulties incident to any very great increase in the pressure at the present time. First, the existence of a considerable amount of old cement mains. These, however, are being replaced with cast-iron at a fairly rapid rate and whenever breaks occur, sections of cast-iron main are immediately installed, so that the cement pipe will be entirely replaced within a comparatively short period of time. The second reason for not increasing the pressures at the present time beyond the necessary minimum is the fact that a very large number of the buildings in the eastern part of the city are supplied on a flat or fixture rate basis. There is no incentive to save water and fixtures are allowed to remain defective when they become so and the waste of water has been very great. The installation of meters, however, has already shown much improvement and has brought about a considerable reduction in the total amount of water required to supply the city. It was because of the saving brought about by meters that the Board issued an order some time since calling upon the company to completely meter its

system. This order, however, was appealed to the Court, the company contending that the reason for not installing meters was due to its inability, with the existing rates, to finance the cost of the installations of the meters. The complete metering of this system will, of course, increase the investment of the company, but the resulting saving will be beneficial to the company and favorable to its customers. Meters are now being installed at the rate of about 9,000 per year and if continued at this rate the system will be fully metered within a year's time.

With regard to the sufficiency of supply, plans have been made, some property has been purchased, and some of the construction work completed, looking to a supply from the Raritan River, near Bound Brook. Testimony submitted is to the effect that the delay in completing the development of the Raritan River supply is largely due to the inability of the company to finance such extensive improvements during a period when the financial market was disturbed by the war-time conditions. Cost of money has been high but is now coming down and with some adjustments of the rates charged it ought to be possible, in the comparatively near future, to finance the Raritan River development.

Rates.

The rates of the Elizabethtown Water Company were established on a flat or fixture rate basis and have seen no particular change during the last fifty years. The meter rates of this company up to about 1915 were designed only for use in connection with the supply of factories and large institutions using very considerable quantities of water, and were not appropriate for the purpose of computing charges if meters were installed in ordinary residences. Some changes in the meter schedule to adapt it to use in connection with domestic supply were made in 1918. These changes, however, although apparently increasing the rate, were not designed to result and did not result, in any increases in

the gross revenue of the company. It is true that the bills of some small industries which were supplied with water through meters were increased, but this was due to the fact that they were quite small users of water and were not entitled to the very low rate which they had previously been charged. On the other hand, the bills of many of the large manufacturers were reduced while the largest customers, notably the Central Railroad of New Jersey and the Singer Sewing Machine Company, were charged practically the same amounts which they had been paying.

The gradual changes in the operations of this company have been described above. As originally developed, the Elizabethtown Water Company's plant was on the river bank and supplied directly a comparatively small area. As time went on it became necessary to go further and further from the city to get the additional quantities required and costs very naturally increased. Charges were not increased, however, as has been stated, and for many years it was perhaps not necessary to increase the charges as efficiency of operation increased with the growth of the business. Conditions, however, have continued to change and with the necessity of providing new sources of supply still further removed from the city, some adjustment must be made in the rates in order to secure to the company a reasonable net revenue which will attract the capital required for the new development necessary and in order also to meet the costs of operation which have increased materially during the past few years.

Value of Property.

The properties of these companies were appraised for the companies by Nicholas S. Hill, Jr., and testimony was submitted by Mr. Hill, giving his valuations on several bases, namely, (a) on pre-war basis, using average prices from 1909 to 1914, inclusive; (b) on book values corrected; (c) on a basis using average prices from 1911 to 1920, inclusive, (d) on current prices of

1920, and (e) on the current prices of April 1st, 1921. The cost of additions made during the period of the war was also testified to. Testimony has been given with regard to the inventory and appraisal and has been supplemented and corrected by testimony submitted by Weston E. Fuller, a witness for the municipalities, and through cross-examination.

The inventory of the property was checked by the engineers of the Board and the appraisal itself was subjected to careful analysis by a study of the unit prices and a comparison of the prices used with similar figures used by the Board in other appraisal work. In additin to the appraisal itself, much testimony was submitted with regard to whether certain items were used or useful in the conduct of the companies' business. The companies' appraiser has made deductions for certain property which he considered was not needed in the operation of the business and has also made deductions for accrued depreciation. The real estate used by the company, which involved a considerable number of parcels, was appraised by real estate experts, and subsequently certain parcels were reappraised. The transmission pipe lines owned by the Piscataway and Raritan Township Companies are laid, over a large portion of their routes, on rights of way which in many cases are not owned in fee by the water companies. The apraisal of these properties made by the real estate experts was as to the value of the fee and did not take into account the fact that the company did not own the fee.

As a check on the value of the property used and useful, the municipalities submitted testimony with regard to the value of a hypothetical comparative plant which witness assumed would be built at the present time, and therefore took into account present day prices in connection with part of such hypothetical plant. The Board has made a careful study of the testimony with regard to the value of the property and finds, in general, that the land should be taken at the appraised values, without overheads; but that with respect to structures and equip-

ment greater weight should be given to value on a pre-war basis, modified to the extent of allowing a reasonable appreciation due to present day conditions, subject also to adjustment for depreciation.

Certain further modifications, however, must be made:

(1) The companies' deduction for accrued depreciation takes into account the present condition of certain cement mains in the City of Elizabeth. A very considerable reduction is made because of their character and condition. They must, however, be replaced in the very near future with suitable cast-iron mains in order that the pressures in general may be increased to an extent which will assure adequate service. Depreciation on the combined plants was estimated by Hill as of January 1st, 1919, at $439,913. To this must be added the increase in depreciation reserve up to July 1st, 1921, making a total for depreciation on Hill's basis of value of $554,603. As a contrast to this, Mr. Fuller's estimate of depreciation, based upon pre-war book costs, is taken at $644,230. His estimate for depreciation based upon the prevailing costs, is $838,935, and his first estimate is made up partly from an analysis of the books and partly from an examination of the property. An average of his two figures is $741,582. As a check on this, if we take Mr. Fuller's estimate of depreciation on the pre-war basis and add to his the allowance for appreciation (20 per cent.) as used in connection with this property, we have an allowance of depreciation on a present day normal basis of $773,076. The replacement of the cement mains in Elizabeth with cast iron will add very considerably to the charges to capital account and to the investment in this company's property. This should be taken account of at this time, as the changes have been under way some little time and are to be prosecuted to practical completion as soon as the company is able to finance the expenditures. In lieu of the allowance of any definite sum in the present capital base to cover the added costs for cast-iron mains,

the deduction for depreciation will be limited to the amount estimated by the company. If the higher figures found in some of the other estimates, both of Hill and Fuller, were to be taken, it would be necessary to add definitely to provide for the increased cost of iron over cement.

(2) The appraisal made by the companies' witness includes an allowance for overhead charges on the land of all the companies, the land itself, however, being appraised at present-day values. The weight of decisions precludes the inclusion of overhead charges on land and an adjustment will be made excluding these overhead charges.

(3) Land used as right of way for the pipe lines was appraised by the witnesses for the companies on the assumption that the fee was owned by the company, although in connection with a large number of parcels it appears that the company merely enjoys a right to lay mains while the owner of the fee still retains the right to use the surface, in some cases for farming purposes, in others for laying railway tracks, oil pipe lines, etc. The value of the right of way under such conditions is a matter difficult of determination. The actual cost paid for these rights by the companies, with proper allowance for appreciation in value, would be a better basis for determining the value at this time if all of this information was available in detail. Certain tracts of land purchased by the Piscataway Water Company cost that company, as shown by a letter to the Board dated February 3d, 1911, approximately $12,000; these particular tracts were valued in the aggregate at $17,494, by the companies' appraisers. With regard to the Raritan Township Water Company, certain items of right of way cost the company $10,664, this information also being found in a letter to the Board dated February 3d, 1911. As near as it is possible to identify these tracts, it appears that the appraised value of them is $21,493. In view of these figures, it appears to us that substantial justice will be done if the values of the right of way

are taken, for the purpose of this inquiry, at the same figures as fixed by the appraiser in his testimony. As a matter of fact, a considerable variation in our conclusions as to the value of the real estate would have a negligible effect on the ultimate rate schedules.

(4) The original plans for developing the Raritan River project called for the construction of a dam above the Town of Raritan and the construction of a 36-inch pipe line through Raritan and Somerville, and on to Elizabeth. A 36-inch line was constructed in parts of Raritan and Somerville by the Somerville Water Company. Due to litigation, however, construction of the line in Somerville was interrupted. Due to anticipated litigation on the part of the others who had water rights in the Raritan River, the plan which called for the construction of the dam above Raritan was abandoned, and decision was reached that the dam should be constructed at the confluence of the Raritan and Millstone Rivers. It appears that the Elizabethtown Water Company loaned money to the Somerville Water Company, which was used for the construction of the 36-inch line in Somerville and Raritan. These expenditures, however, will be of no value in supplying customers of the companies now under consideration, and whatever value the pipe lines in Somerville may have will therefore not be considered in connection with this matter.

(5) As already stated, the Elizabethtown Water Company receives some water from the Middlesex Water Company, and in order to make this possible, the Elizabethtown Water Company advanced to the Middlesex Water Company $89,000 which was used in the creation of facilities, the use of which is solely for the Elizabethtown Water Company. The rate charged by the Middlesex Water Company to the Elizabethtown Water Company is lower than it would otherwise be by reason of the fact that the fixed charges on this investment are borne by the Elizabethtown Water Company. In other words, the property to the value of $89,000, found in the Middlesex Water Company plant,

is used solely for the benefit of the customers of the company which advanced the money, and this value must therefore be included in the valuation of the property for which rates are now being considered. The amount will be taken at its cost of $89,000 in the base value, this having been expressly excluded from the value of the Middlesex Water Company in fixing the rates charged by that company, and must therefore be now included in the valuation of the Elizabethtown Water Company. (See Board's Reports, Vol. VIII, p. 165.)

(6) Included in the appraisal as it stands is the land which has been purchased for the New Raritan River development, extending from the junction of the Millstone and Raritan Rivers to the east side of Bound Brook. No portion of this land is yet occupied by either buildings or pipe lines, and when this property goes into service certain other plants of the company may become obsolete and may eventually be dismantled or disposed of. The amounts included in the reappraisal for the real estate referred to is $107,335. This will be deducted. The cost of carrying this property pending its actual use is provided for through the allowance of interest during construction.

Value of Real Estate.

In the petitioner's brief, page 20, the total value of the land owned by the various companies is given by Mr. Hill as $635,417, and on page 21 the claim is made for an increase of $50,871.25 in value of land due to reappraisement by several witnesses who testified before the Board. The testimony of these witnesses has been carefully analyzed and the results indicate, in the Board's opinion, that the figures in the company's brief are in error. This will be clear from the following table:

Items of Land Covered by Reappraisement.	*Base Cost, Hill's Inventory.*	*Reappraisement Value.*	*Increase.*	*Company's Claim of Increase—Brief, p. 21.*
Parcels 56 & 57, ...	$332	$1,338	$1,006	.....
" 63—69, ...	55,236	97,311*	42,075	.....
" 70—75, ...	16,358	37,700	21,342	.....
" 76—77, ...	14,400	21,765	7,365	.....
Total, ...	$86,326	$158,114*	$71,788	$41,638
Right-of-way 41 & 42, ..	5,012	10,024	5,012	2,255
" " " 1—37, ..	61,833	69,066	7,233	
" " " 38—40, 43 to 48 & 50, ...	39,383	26,111	—13,272	6,978
Grand total, ...	$192,554	$263,315*	$70,761	$50,871

The value as found by the Board is arrived at as follows:

Value set up in Mr. Hill's appraisal as of January 1st, 1919, ...		$635,417
Add increases testified to on reappraisement in 1921, ...		70,761
Gross appraised value with overheads included as of 6–30–21, ...		$706,178
Deduct overhead charges included in Mr. Hill's appraisal of $635,417, ...		103,990
Gross value less overheads, ...		$602,188
Deduct land at and below the junction of Raritan and Millstone Rivers at reappraised value, as above, ...	$97,311*	
Also rights of way Nos. 41 and 42 contiguous to above, ...	10,024	
		107,335
		$494,853

*Includes value of parcel No. 69 reappraised at $36,000 (test, p. 788), but taken in petitioner's brief as $6,000. This same amount is deducted, so it is immaterial which value is taken.

Deduct value of right of way 51 to 55, 57 and Lot No. 3 (Brief, p. 20). Total inventory value $6,681, to which must be added $115 increase for Parcel 57, included above,	6,796
Value of land as of June 30th, 1921, as found,	$488,057

Basis for Rates.

The basis of value upon which the total required revenue will be computed is as follows:

TABLE "A."

Basis for Rates.

The pre-war basis of value new of the property used and useful as developed by the companies' appraiser and checked and examined by the Board's engineer, will be taken as a starting point for the value new of the property in existence at December 31st, 1918,	$3,674,181
Deduct land included therein at pre-war value,	432,427
Value new of structural property to January 1st, 1919,	$3,241,754
Deduct depreciation on above, accrued to January 1st, 1919,	439,913
Depreciated structural value of used property to January 1st, 1919,	$2,801,841
Addition will then be made for the property owned by these companies in the plant of the Middlesex Water Company,	89,000
Depreciated structural value to January 1st, 1919, at pre-war prices,	$2,890,841

To this is added an allowance for appreciation. The companies' witness included in his basis for rates, although it was not computed in just this way, the equivalent of about 35 per cent.. In view of the fact that we have included additions made during the war at their actual war-time prices, we are of opinion that an allowance for appreciation of 20 per cent. is ample to cover all proper claims for such an allowance, ...		578,168
Depreciated structural value to January 1st, 1919, at post-war prices, ...		$3,469,009
Gross additions—1919, 1920 and 6 mos. 1921—Hill's adjusted book costs, ...	$287,567	
Less net increase in depreciation reserve—1919, 1920 and 6 mos. 1921, ...	114,690	
		172,917
Depreciated structural value as of June 30th, 1921, ...		$3,641,926
Add value of real estate and rights of way as in preceding calculation, ...		488,057
Present value on post-war basis of all property used and useful, ...		$4,129,983
To cover all allowances for intangible elements, we are of opinion that an allowance of 10 per cent., which is practically the basis, although not the amount, claimed by the company, is ample and sufficient, ...		412,998
		$4,542,981

Allowance for working capital, ...	100,000
Basis for rates, ...	$4,642.981
Taken as, ...	$4,650,000

Rate of Return.

Much testimony was submitted by the company to the general effect that a high rate of return was necessary at this time in order that the company might be able to properly finance its large program of extensions. This might be true if we were fixing rates merely for to-day, but the testimony further shows that the cost of money is going down; that we are gradually approaching a period of normal times and although costs of many things may be on a higher plane, requiring the adjustments in rates, in the opinion of the Board, a return on the value fixed above of 7.25 per cent. should enable these companies to furnish safe, proper and adequate service to their customers and attract capital to finance the extensions needed in order that the companies may keep pace with the growing needs of the communities served by them.

Earnings and Expenses.

In determining the earnings and expenses of these companies some study must be made of inter-company expenses and revenues. The Elizabethtown Water Company sells water directly to its consumers but not to any other water company. Its revenue is therefore easily ascertained. The Piscataway Water Company obtains its revenues from two sources: (1) from a small number of ordinary consumers; and (2) from the Elizabethtown Water Company for (a) transportation of water, and (b) for water produced at its Bound Brook plant and sold to the Elizabethtown and Raritan Township Companies. The Raritan Township Water Company obtains its revenues from two sources: (1) small number of ordinary consumers; and (2) from the Elizabethtown Water Company in payment for services

in transporting water. The Watchung Water Company obtains its revenue from two principal sources: (1) private consumers in Dunellen and vicinity; and (2) from the Elizabethtown Water Company in payment for water supplied to that company through the transmission line.

Taxes.

The petitioners claim that the rates prayed for contemplate the payment of $190,000 in taxes for the system. Nearly 60 per cent. of the taxes are based on revenue. The claim for $190,000, furthermore, is based on a total revenue (under the filed rates) of $950,435. The revenue under the rates as found would reduce about $100,000 less and the taxes would be considerably smaller. Although the revenues for 1919, 1920 and 1921 have varied as much as $50,000, the difference in amounts paid for taxes is negligible. The actual taxes in 1920 were $78,175 and the unduplicated revenue of the preceding year approximated $635,000. In 1921 the taxes were $78,998 based partially on an unduplicated revenue of about $685,000 in 1920. Part of the taxes of 1922 will be based on an unduplicated revenue of about $635,000 in 1921. This indicates that during the year 1922 the company will not be called upon to pay higher taxes based on the lower revenue of 1921. The revenue for 1921 was actually about $50,000 less than in 1920. The industries are now beginning to revive. When the higher tax rate comes to be levied, on 1922 revenue, the industries will probably have revived to such an extent that the revenues due to this revival, without entailing a corresponding increase in expense, will be sufficient to take care of the increase in taxes, in the Board's opinion.

The aggregate gross unduplicated revenues, eliminating inter-company revenues, for the years 1919, 1920 and 1921, are given in Table "B," following:

TABLE "B."

Aggregate Gross Unduplicated Revenues, Eliminating Inter-Company Revenues, for the Years 1919, 1920 and 1921 (cents omitted).

	1919	1920	1921
Elizabethtown Water Company,	$606,385	$643,146	$598,193
Piscataway Water Company,	1,193	2,571	2,706
Raritan Township Water Company,	354	290	310
Watchung Water Company,	26,299	39,643	34,730
	$634,231	$685,567	$635,939

The following table gives the data showing financial results for the years 1919, 1920 and 1921:

TABLE "C."

Financial Results, 1919, 1920 and 1921, Based on a Return of 7.25 Per Cent. on Value as Found by the Board (Figures for Value Rounded Out).

	1919	1920	1921
Value of property,	$4,520,000	$4,600,000	$4,600,000
7.25 per cent. return on value,	$327,700	$333,500	$337,125
Operating expenses adjusted,	335,282	408,920	377,828
Amortization,	50,651	52,911	56,832
Subtotal,	$713,633	$795,331	$771,785
Taxes,	76,563	78,175	78,998

Gross revenue required, ...	$790,196	$873,506	$850,783
Actual revenue (from Table "B"),	634,231	685,567	635,939
Deficit, ...	$155,965	$187,939	$214,844
Deficit in per cent. of capital, ...	3.45	4.099	4.62
Deficit in per cent. of actual revenue, ..	24.60	27.40	33.80
Deficit in per cent. of 1920 and 1921 actual revenue (average), ...			30.50

Allocation of Anticipated Revenue.

A study of all the testimony in this case shows that the Raritan Township Water Company was formed almost entirely for the purpose of transmitting water to the territory supplied directly by the Elizabethtown Water Company. The Piscataway Water Company also owns and maintains a transmission line used almost entirely for transmitting water to the Elizabethtown Water Company. The Piscataway Water Company, however, operates a pumping plant at the extreme western end of its line, just east of Bound Brook, this water being delivered, almost in its entirety, to the Raritan Township Water Company for further transmission to Elizabeth. The Watchung Water Company operates a pumping plant and in addition to selling water to the Elizabethtown Water Company, serves Dunellen and some surrounding territory. About one-sixteenth to one-eighteenth of the aggregate gross revenue of all these companies is collected by the Watchung Water Company. The rates charged for private consumers for water supplied from the transmission pipe line have been the same as the corresponding rates charged by the Watchung Water Company. The rates which the Watchung Water Company should charge should be determined by a

study of that company's revenues and operating deductions, relating the net revenue to the value of the Watchung Water Company property. Of the total value of $4,650,000, the value of the Watchung property alone is found to be $228,500 for 1920 and $230,000 for 1921. A 7.25 per cent. return on this property would be $16,569 for 1920 and, for the year 1921, would be $16,675. The Watchung Company failed to obtain this return by 19.5 per cent. in 1920 and 22.3 per cent. in 1921. These percentages are based on *all* sales of water. From these results we conclude that an increase in revenue of the Watchung Water Company of 20 per cent. will be reasonable.

While the total revenue for the Watchung Water Company should be increased about 20 per cent., analysis indicates that the new fire rates and the increase in charges to the Elizabethtown Water Company will provide this additional revenue. The fire charge based on the system in place January 1st, 1921, is $7,667; this is equal to 16.2 per cent. of the required revenue in 1920 and 18.1 per cent. of the smaller required revenue of 1921; the average is about one-sixth of the revenue for the two years. This is a reasonable percentage for a small system as compared with about 13 per cent. developed for the large Elizabeth system. It follows that no increase in revenue from flat rate and metered customers is required. The metered rates, however, are based on the unreasonable step rate form of schedule. For instance, a customer using 26,900 gallons of water would be charged at the rate of 35 cents per 1,000 gallons, a total of $9.42. If he wasted 100 gallons more, bringing his consumption up to 27,000 gallons, he would be billed at the lower rate of 25 cents per 1,000 gallons and his bill would drop to $6.75. His consumption would increase 100 gallons, but his bill would decrease $2.67. This is not reasonable. A block schedule of rates should be developed giving a block rate for each of the following blocks and the quantity of each block

should be billed at the rate for that block. Thus each customer will pay for his water at the same rate that every other customer pays.

For the first 10,000 gallons in a quarter* per 1,000 gallons.
For the next 40,000 gallons in a quarter* per 1,000 gallons.
For the next 150,000 gallons in a quarter* per 1,000 gallons.
For the next 300,000 gallons in a quarter* per 1,000 gallons.
For all over 500,000 gallons in a quarter* per 1,000 gallons.

*Exact rates for each block to be developed from study of consumption.

The Piscataway and Raritan Township Water Companies might reasonably adopt the schedule of the Watchung Water Company for flat rate and metered private service as the general conditions of service appear to be substantially the same.

The following allocation will therefore be made, based on the revenues for 1920 and 1921, to ascertain the amount to be allocated to the Elizabethtown Water Company:

TABLE "D"

ELIZABETHTOWN WATER COMPANY.

		1920.		*1921.*
Aggregate gross revenue required (Table "C"), ...		$873,506		$850,783
Deductions:				
Watchung Water Company, ...	$47,372		$42,475	
Piiscataway Water Company, ...	2,503*		2,631†	
Piscataway Water Co. fire service, ...	200		200	
Raritan Township Water Company, ...	290		310	
Total, ...		$50,365		$45,616

*Total revenue, 1920, excluding sales to other companies, $2,578, less five hydrants at $15; $2,503.

†Total revenue, 1921, excluding sales to other companies, $2,706, less five hydrants at $15; $2,631. The new hydrant rate is taken at $40.

To be collected from customers supplied by Elizabethtown Water Co., ...	$823,141	$805,167
(a) To be collected from fire service, ...	104,016	104,016
(b) to be collected from domestic and manufacturing customers, ...	$719,125	$701,151

A study of the allocation of costs for various classes of service indicates that the larger and more densely populated the municipality, the smaller is the percentage chargeable to fire protection. In the case of the Hackensack Water Company, the largest company in the State, and serving a larger territory, the amount charged to fire protection was found to be 12.5 per cent. of the gross revenue. In our opinion, the Hackensack method of allocation should be used for the Elizabethtown Water Company. The amount of gross revenue, therefore, to be collected through fire protection charges will be taken at about $104,016 for the mains and hydrants in place as of December 31st, 1920, and the remainder is to be collected from private water service (the industrial and domestic consumers of water).

At the close of 1920 31.7 per cent. of the customers of the Elizabethtown Water Company were metered, these customers paying a gross revenue of $401,250 (annual report); by the close of the year 1921 approximately 50.6 per cent. of the customers were metered, these customers providing a gross revenue of $440,375, less $52,000 billed by the company in 1921 at its increased rates, as filed.

The testimony in this case indicates that, according to the program of the company, in the course of approxmately a year or two, its system will be practically entirely metered. By reason of this fact the revenues received on a flat rate or fixture schedule do not furnish the Board with a basis on which to estimate what will be the revenue when the company's system is fully metered.

It therefore becomes necessary to approximate the revenue from the unmetered customers when they shall have been placed on a metered basis. According to the company's program the customers have heretofore been metered in order of their use of water, those using the greatest amount of water being metered first. It therefore is evident that the customers remaining to be metered are those who will use the smaller quantities of water, such as occupants of private houses and the better class of two-family houses. After considerable study and comparison the Board has estimated that a fair average of revenue under the original schedule of rates would have averaged $16.50 for each of the houses remaining to be metered in 1920 and 1921, respectively, In order to ascertain what the deficiency in revenue would have been during the years 1920 and 1921, computations have been made and embodied in Table "E" which follows:

TABLE "E"

ESTIMATE SHOWING REVENUE WHICH WOULD HAVE BEEN COLLECTED FROM METERED PRIVATE SERVICE ON A 100 PER CENT. METERED BASIS—ELIZABETHTOWN WATER CO. ONLY.

Year 1920 Private Metered Service.

(a) Revenue estimated to be required to earn 7.25 per cent. (Table "D"), ...		$719,125
(b) Revenue from customers actually metered, ...	$401,230	
Revenue estimated to be received from 10,800 taps to smaller houses had they been metered in 1920 at $16.50 each, ...	178,200	
Private metered revenue for 1920 on basis of a fully metered system, ...		579,430
Deficit from required revenue, ...		$139,695
Increase necessary to absorb deficit, ...		24.1%

Year 1921 Private Metered Service.

(a) Revenue estimated to be required to earn 7.25 per cent. (Table "D"), ...		$701,151
(b) Revenue from customers actually metered, ...	$440,875	

Less excess due to amounts collected at filed rates, ...	52,000	
Adjusted to pre-existing schedule of rates,	$388,875	
Revenue estimated to be received from 8,300 taps to smaller houses had they been metered in 1921 at $16.50 each, ...	136,950	
Private metered revenue for 1921 on basis of a fully metered system, ...		525,825
Deficit from required revenue, ...		$175,326
Increase necessary to absorb deficit, ...		33.3%
Weighted average for 1920 and 1921, ..		28.5%

The number of taps remaining to be metered as shown in Table "E" for 1920 and 1921 respectively was furnished by the company. It will be noted that, based on the two years' average, the necessary increase in rates to have enabled the company to receive a 7.25 per cent. return on the values hereinbefore determined would approximate 28.5 per cent. In the Board's opinion, the average for two years affords a safer guide for the future than 1921 alone.

The full effect of the use of meters heretofore installed has not become apparent. In these estimates no allowance has been made for the expenses incidental to the use of the new meters other than those already included in the operating expenses but on the other hand when the meters shall have been installed, a short time, the amount of water per tap will undoubtedly be reduced, resulting in a net benefit to the company. The exact effect of metering this system cannot at this time be more closely approximated than is revealed in Table "E" foregoing. On the whole, we are of the opinion that an increase in the metered rates of the Elizabethtown Water Company of approximately 28.5 per cent. will bring it a net return of 7.25 per cent. on the value of the property as hereinbefore determined; due consideration has been given to the fact that there will be some increase in the capital base required by the installation of additional meters; this will be offset by the decrease in the amount of water per tap as hereinbefore

recited. As all of the customers of the company will probably be served through meters within a period approximating a year or two, the flat or fixture rates do not require mere extended consideration, but during the period of transition they should be proportionally increased in order to remain on a general parity with the metered schedules.

The schedule of rates filed by the companies on March 3d, 1921, is as given below. For convenience, the schedule of rates formerly charged is given in a parallel column.

ELIZABETHTOWN WATER COMPANY.

	Filed Rate	*Old Rate*
For each 1-story house,	$12.00	$8.00
For each 2-story house, private dwellings,	15.00	10.00
For each 3-story house,	22.50	15.00
Tenement rates for each family,	7.50	5.00
For each bath,	7.50	5.00
For each closet,	7.50	5.00
For each lawn sprinkler,	6.00	4.00
For first horse,	7.50	5.00
For each horse thereafter,	3.00	2.00
For each cow,	3.00	2.00
For water pressure pump,	15.00	10.00
For each urinal,	7.50	5.00
For each saloon, store, laundry, etc.,	12.00	8.00
For concrete work,	2¼c. per cu. yd.	1½c. per cu. yd.
For brick work,	15c. per M brick	10c. per M brick

Above rates subject to discount of 10% for prompt payment.

	Filed Rates	*Old Rates*
Hydrant rates in Elizabeth, Linden, Hillside and Union Townships,	$15.00 per year	$10.00 per year
Hydrant rates in Boroughs of Linden and Roselle,	37.50 " "	25.00 " "
Hydrant rates on salt water line in City of Elizabeth,	7.50 " "	5.00 " "

Metered Rates.

	Filed Rates	*Old Rates*
For the first 5,000 cu. ft. per qtr.	$2.63 per 1000 cu. ft.,	$1.75
For the next 10,000 " "	2.25 " " "	1.50
For the next 485,000 " "	1.53 " " "	1.05
For all over 500,000 " "	1.41 " " "	0.95

Minimum Meter Charges.

		Filed Charge			*Old Charge*
5/8"	Meter,	$3.25	per	quarter,	$2.50
3/4"	"	4.75	"	"	3.50
1 "	"	7.50	"	"	5.00
1½"	"	15.00	"	"	10.00
2 "	"	17.50	"	"	15.00
3 "	"	37.50	"	"	25.00
4 "	"	52.50	"	"	35.00
6 "	"	75.00	"	"	50.00
8 "	"	120.00	"	"	80.00
10 "	"	180.00	"	"	135.00

The new rates, it will be noted, are practically fifty per cent. higher than the old rates.

PISCATAWAY WATER COMPANY.

Filed Charge.

"In addition to thirty-five dollars ($35) per million gallons charged to the Elizabethtown Water Company for water, there will be charged to that company a fixed charge of sixty-five thousand dollars ($65,000) per year, payable semi-annually beginning with April 1, 1921, on the first days of April and October in each year."

Old Charge.

$35.00 per million gallons.

RARITAN TOWNSHIP WATER COMPANY.

Old Charge.

"A fixed charge of $25,000 payable semi-annually is now made to the Elizabethtown Water Company for the water supplied to it in the use of the plant of this company for the customers served by the Elizabethtown Water Company."

Filed Charge.

"The charge to the Elizabethtown Water Company will be increased by an additional fixed charge of sixty-

five thousand dollars ($65,000) per year for the use of the plant and equipment of this company for the benefit of the customers of the Elizabethtown Water Company."

WATCHUNG WATER COMPANY.

Metered Rates.

	Filed Rates.	*Old Rates.*
If the average daily consumption is less than 300 gallons per day, ...	42c. per 1,000 gals.	35c. per 1,000 gals.
From 300 gallons to 500 gallons per day, ...	35c. " " "	25c. " " "
From 500 gallons to 1,000 gallons per day, ...	28c. " " "	20c. " " "
In excess of 1,000 gallons per day, ...	21c. " " "	15c. " " "

Minimum Meter Charges.

5/8"	Meter,	$3.50 per quarter.	3"	Meter,	$35.00 per quarter.
3/4"	"	4.90 " "	4"	"	49.00 " "
1"	"	7.00 " "	6"	"	70.00 " "
1½"	"	14.00 " "	8"	"	112.00 " "
2"	"	21.00 " "	10"	"	182.00 " "

NOTE.—All flat rates are increased 40% by the newly-filed rates.

Dwelling Houses.

(Occupied by one family.)

	Filed Rates.
For one faucet, ...	$8.40
For each additional faucet, ...	2.80
For one water closet, ...	7.00
For each additional closet, ...	2.80
For one bathtub (including washbasin in bathroom), ...	5.60
For each additional bathtub, ...	2.80
For one set of washtubs, not exceeding three, ...	4.20
For each additional set of tubs, ...	2.80

No premises will be supplied with water on the flat rate basis at a rate lower than $8.40 per year.

Where two faucets are used, one for hot, and one for cold water, both emptying into one vessel, but one charge will be made for both. (No change.)

Where dwellings are occupied by more than one family, each family will be charged at above rates. (No change.)

In case where closets, tubs, faucets or other fixtures supplied with water are used by more than one family, extra charge will be made of 75 per cent. (No fixed rate formerly.)

The charge for hose faucets or hose connection is $7.00 and upwards for the whole or part of a season. The season extends from April 1 to October 1 in each year. Hose must be used only between the hours of 6 and 8 A. M. and 5 and 7 P. M. The permit to use a hose does not include the privilege to sprinkle streets.

Stables.

	Filed Rates.
Public stables, having not more than five stalls, ...	$14.00
For each additional stall, ...	2.80
For each carriage or other vehicle, ...	1.40
Private stable, not exceeding two horses, ...	8.40
For each additional horse, ...	2.80
For one carriage, ...	1.40
For one cow, ...	2.80
For each additional cow, ...	1.40

Additional fixtures and water for other purposes will be supplied at similar rates.

Other Uses.

	Filed Rates.
Hose faucet, $7.00 and upward.	
Street-washer on sidewalk, ...	$7.00
Street-washer on corner property, ...	9.80
Drug Stores, ...	14.00
Barber-shops, stores and offices, $8.40 and upward.	
Building purposes, $2.80 and upward.	

CONCLUSIONS

The Board therefore finds and determines:

(1) That the respective values of the properties of the four companies, for the purpose of fixing rates, as of June 30th, 1921, are as follows:

Elizabethtown Water Company,	$3,465,000
Piscataway Water Company,	730,000
Raritan Township Water Company,	225,000
Watchung Water Company,	230,000
Total,	$4,650,000

(2) That a fair gross return for the four companies combined may be computed at 7.25 per cent. and equals $337,125 on the said combined value found as of June 30th, 1921.

(3) That the rates filed by the petitioners are unjust and unreasonable, and are disapproved.

(4) That the petitioners should be afforted relief by increased rates.

(5) That the following schedule of rates are just and reasonable:

ELIZABETHTOWN WATER COMPANY.

Flat or Fixture Rates.

For each one story house,	$10.00	per year
Foreach two story house,	14.00	" "
For each two story house,	19.00	" "
Tenement houses—for each family,	6.50	" "
For each bathtub,	6.50	" "
For each closet,	6.50	" "
For each lawn sprinkler,	5.00	" "
For the first horse,	6.50	" "
For each horse thereafter,	2.50	" "
For each cow,	2.50	" "
For each urinal,	6.50	" "
For concrete work,	13	cents per thou. brick
For brick work,	2	cents per cu. yd.
For private garage,	6.50	per year

A discount of ten per cent. (10%) will be allowed on all bills paid within thirty days after mailing or presentation.

Metered Rates.

For the first 5,000 cubic feet per quarter	$2.25 per M. cubic feet
For the next 10,000 cubic feet per quarter	1.90 per M. cubic feet
For the next 485,000 cubic feet per quarter	1.35 per M cubic feet
For all over 500,000 cubic feet per quarter	1.20 per M cubic feet

Subject to the following minimum charges:

For ½ or ⅝ inch meter,	$3.00 per quarter
For ¾ inch meter,	5.00 per quarter
For 1 inch meter,	8.00 per quarter

For	1½ inch meter, ...	$15.00 per quarter
For	2 inch meter, ...	20.00 per quarter
For	3 inch meter, ...	40.00 per quarter
For	4 inch meter, ...	65.00 per quarter
For	6 inch meter, ...	110.00 per quarter
For	8 inch meter, ...	175.00 per quarter
For	10 inch meter, ...	200.00 per quarter

Annual Fire Protection Charges.

A fixed charge for each hydrant owned by a municipality to cover leakage, maintenance and inspection, of $2.00 per annum.

For each hydrant owned by the company, to cover leakage, maintenance, inspection, and all fixed charges on the hydrant, its valve, branch, etc., $10.00 per annum.

In addition to the charge per hydrant, there will be a charge covering the interest, depreciation, taxes, maintenance and net return on that portion of the system of the company required for fire protection purposes, which has been estimated at 13.0 per cent. of the gross revenue of the company, average for 1920 and 1921. This charge is to be made up by charging one cent (1c.) per inch diameter per foot of mains. This includes all of the mains lying within Elizabeth and that portion of the transmission lines lying outside of the City of Elizabeth as is needed to supply the water to Elizabeth. The transmission lines outside of Elizabeth are allocated to the various municipalities served by the Elizabethtown Water Company, in proportion to the population in each, and are shown in the following Table "F."

Note.—The inch feet of any main may be ascertained by multiplying the length of the main in feet by its diameter in inches.

TABLE "F"

FIRE SERVICE CHARGES—ELIZABETHTOWN WATER COMPANY

(Based on System in Place 12-31-20)

MUNICIPALITY	*Population 1920*		*Inch-Feet of Mains 12-31-20*			*Fire Hydrants*			*In.-Ft. Chg.*	*Hydrant Chg.*		*Total Fire*
	Amt.	*%*	*Transm.* 20" 24" 36"	*Distbn.* 4" to 8"	*Total*	*Co.*	*City*	*Total*	*at 1c.*	*at $10*	*at $2*	*Service Chg*
Elizabeth City, ...	95,783	83.89	3,653,745	3,936,144	7,588,889	..	596	596	$75,889	....	$1192	$77,081
Union Township, ...	3,962	3.47	151,132	362,430	513,562	..	34	34	5,136	....	68	5,204
Linden Township, ...	6,612	5.79	252,178	934,926	1,187,104	..	61	61	11,871	....	122	11,993
Hillside Township, ...	5,267	4.61	200,784	408,838	609,622	..	40	40	6,096	....	80	6,176
Clark Township, ...	794	.70	30,488	33,900	64,388	..	...	...	644	....	....	644
Roselle Borough, Est., .	43	.....	.....	3,500	3,500	2	...	2	35	$20	....	55
Linden Borough, ...	1,756	1.54	67,073	197,192	264,265	22	...	22	2,643	220	....	2,863
Total, ...	114,174	100.00	4,355,400	5,875,930	10,231,330	24	731	755	$102,314	$240	$1462	$104,016

PISCATAWAY WATER COMPANY,
RARITAN TOWNSHIP WATER COMPANY,
WATCHUNG WATER COMPANY.

Flat or Fixture Rates.

For one faucet,	$6.00	per year
For each additional faucet,	2.00	" "
For one water closet (pan or tank),	5.00	" "
For each additional closet (pan or tank),	5.00	" "
For one bathtub, including wash basin,	4.00	" "
For each additional bathtub,	2.00	" "
For one set of laundry tubs, not exceeding three,	3.00	" "
For each additional set of laundry tubs, not exceeding three, per set,	2.00	" "
Lawn sprinkler, or outside hose connection,	5.00	" "
Private garages, per car,	5.00	" "

Where two faucets are used, one for hot and one for cold water, both emptying into one vessel, but one charge will be made for both.

No bill will be rendered for less than $10 per year.

Metered Rates.

For the first 10,000 gallons per quarter*
For the next 40,000 gallons per quarter*
For the next 150,000 gallons per quarter*
For the next 300,000 gallons per quarter*
For all over 500,000 gallons per quarter*

Subject to the following minimum charges:

For ½ or ⅝ inch meter,	$3.00	per quarter
For ¾ inch meter,	5.00	per quarter
For 1 inch meter,	8.00	per quarter
For 1½ inch meter,	15.00	per quarter
For 2 inch meter,	20.00	per quarter
For 3 inch meter,	40.00	per quarter
For 4 inch meter,	65.00	per quarter
For 6 inch meter,	110.00	per quarter
For 8 inch meter,	175.00	per quarter
For 10 inch meter,	200.00	per quarter

*The existing schedule of metered rates is on the discriminatory "step" system. The company is to file a schedule based on the above blocks, showing the rates for each block, so computed that the total revenue from the present metered customers will not be increased over the existing revenue from the same customers.

Premises where unusual conditions of use prevail, requiring other than ordinary toilet facilities for private use, such as railroad stations, hotels, large boarding houses, clubs, saloons, public laundries, public garages, bathing establishments, stock farms, liveries, public stables, greenhouses, stores, bakeries, barber shops, churches, schools, public buildings, public drinking fountains, etc., will only be served through meters.

The above rates are to be applied to each customer as defined in the Board's "Rules, Regulations and Recommendations for Water Utilities."

PISCATAWAY WATER COMPANY, RARITAN TOWNSHIP WATER COMPANY, WATCHUNG WATER COMPANY.—*Continued.*

Fire Protection Charges.

In view of the fact that there are but five hydrants supplied in the territory of the Piscataway Water Company, a charge of $40 per annum may be made at the present time; whenever general fire protection is supplied in this territory, from the transmission line, appropriate rates may be filed consistent with rates determined by the same method as used herein for the Elizabethtown Water Company's fire service.

No fire protection is furnished at this time by the Raritan Township Water Company.

The charges for fire protection made by the Watchung Water Company may be the same as that of the Elizabethtown Water Company, and are shown in the following Table "G."

TABLE "G"

FIRE SERVICE CHARGES—WATCHUNG WATER CO.

MUNICIPALITY.	Population in 1920		Inch Feet of Mains Dec. 31, 1920			Fire Hydrants			Inch-Ft. Charge at 1 cent	Hydrant Charge at $10	Total Fire Service Charge
	Amount	%	Transm. 12"	Distbn. 4" to 10"	Total.	Co.	City	Total			
Dunellen Borough,	3,394	36.19	32,232	285,680	317,912	67	...	67	$3,179	$670	$3,849
City of Plainfield,	....	....	....	1,400	1,400	2	...	2	14	20	34
Middlesex Borough,	1,852	19.75	17,590	211,128	228,718	24	...	24	2,287	240	2,527
N. Plainfield Twp.,	1,116	11.90	10,599	1,600	12,199	...	...	...	122	....	122
Piscataway Twp.,*	3,016	32.16	28,643	63,900	92,543	21	...	21	926	210	1,135
Total,	9,378	100.00	89,084	563,706	652,772	114	...	114	$6527	$1,140	$7,667

* Population of Piscataway Township served by Watchung Water Company estimated at 56 per cent. of total. (5385 x .56 or 3016.)

(6) That the rates hereby found to be just and reasonable are to be substituted for those heretofore filed by the company.

(7) Fire protection charges as herein fixed are not to become effective until January 1st, 1923, in order to give the municipalities affected a sufficient opportunity to provide therefor in their municipal budgets.

Dated March 15th, 1922.

BOARD OF PUBLIC UTILITY COMMISSIONERS,
By (Signed) HARRY V. OSBORNE,
President.

[SEAL.]

Attest:
(Signed) ALFRED N. BARBER,
Secretary.

I hereby certify the foregoing to be a true copy of a report adopted by the Board of Public Utility Commissioners and ordered filed by said Board.

Secretary.

STATE OF NEW JERSEY,
BOARD OF PUBLIC UTILITY COMMISSIONERS.

In the Matter of the Rates of the Elizabethtown Water Company, Piscataway Water Company, Raritan Township Water Company and Watchung Water Company.

ORDER.

WHEREAS, A hearing was called by the Board of Public Utility Commissioners on notice duly given to inquire into the rates of the above-named companies, and the said hearings were duly held and testimony taken, and a report made thereon and filed by this Board, dated March 15th, 1922, in which just and reasonable rates, charges and schedules for said companies were prescribed; *now, therefore,* it is

ORDERED that the said rates prescribed in the said report shall be imposed, observed and followed by the company and its consumers, beginning with April 5th, 1922, on the condition that the company shall return to its consumers billed for the period from October 1st, 1921, to April 1st, 1922, a sum equal to their proportional part of the difference between the net revenue calculated under the rates filed by it in March, 1921, and the net revenue found by the Board as reasonable for that period.

Dated March 15th, 1922.

BOARD OF PUBLIC UTILITY COMMISSIONERS,
By (Signed) HARRY V. OSBORNE,
[SEAL.] *President.*

Attest:
(Signed) ALFRED N. BARBER,
Secretary.

I hereby certify the foregoing to be a true copy of Order adopted by the Board of Public Utility Commissioners at a meeting held Wednesday, March 15th, 1922, and recorded in the minutes of said meeting.

Secretary.

APPLICATION FOR ORDER FIXING EFFECTIVE DATE OF RATE SCHEDULE.

(*Dated March 23, 1922.*)

STATE OF NEW JERSEY,
BOARD OF PUBLIC UTILITY COMMISSIONERS.

In the Matter of the Rates of the Elizabethtown Water Company, Piscataway Water Company, Raritan Township Water Company and the Watchung Water Company.

The companies above named hereby make application for an order fixing the effective date of the schedule of

rates prescribed by the report of the Board dated March 15th, 1922.

Dated March 23d, 1922.

WM. M. WHERRY,
Attorney for the Companies.

RATE SCHEDULE AMENDMENT AS ORDERED BY BOARD.

(*Dated April 1, 1922.*)

STATE OF NEW JERSEY,

BOARD OF PUBLIC UTILITY COMMISSIONERS.

ELIZABETHTOWN WATER COMPANY,
AMENDMENT TO RATE SCHEDULE.

Pursuant to report and order of the Board of Public Utility Commissioners, dated March 15th, 1922, without prejudice to its rights, Elizabethtown Water Company hereby amends its schedule of rates as follows:

Flat or Fixture Rates.

For each one story house,	$10.00 per year
For each two story house,	14.00 " "
For each three story house,	19.00 " "
Tenement houses—for each family.	6.50 " "
For each bathtub,	6.50 " "
For each closet,	6.50 " "
For each lawn sprinkler,	5.00 " "
For the first horse,	6.50 " "
For each horse thereafter,	2.50 " "
For each cow,	2.50 " "
For each urinal,	6.50 " "
For concrete work,	2.00 cents per cu. yd.
For brick work,	13.00 cents per thou. brick
For private garage,	6.50 per year

A discount of ten per cent. (10%) will be allowed on all bills paid in advance, if paid within thirty days after mailing or presentation.

Metered Rates.

For the first	5,000 cubic feet per quarter	$2.25 per M. cu. ft.
For the next	10,000 cubic feet per quarter	1.90 per M. cu. ft.
For the next	485,000 cubic feet per quarter	1.35 per M. cu. ft.
For all over	500,000 cubic feet per quarter	1.20 per M. cu. ft.

Subject to the following minimum charges:

For ½ or ⅝" meter,	.....	$3.00 per quarter
For ¾" "	.....	5.00 per quarter
For 1" "	.....	8.00 per quarter
For 1½" "	.....	15.00 per quarter
For 2" "	.....	20.00 per quarter
For 3" "	.....	40.00 per quarter
For 4" "	.....	65.00 per quarter
For 6" "	.....	110.00 per quarter
For 8" "	.....	175.00 per quarter
For 10" "	.....	200.00 per quarter

Annual Public Charges.

A fixed charge for each hydrant owned by a municipality to cover leakage, maintenance and inspection, of $2.00 per annum.

For each hydrant owned by the company, to cover leakage, maintenance, inspection, and all fixed charges on the hydrant, its valve, branch, etc., $10.00 per annum.

In addition to the charge per hydrant, there will be a charge covering the interest, depreciation, taxes, maintenance and net return on that portion of the system of the company required for fire protection purposes of one cent (1c.) per inch diameter per foot of main. This includes all of the mains lying within Elizabeth and that portion of the transmission lying outside of the City of Elizabeth as is needed to supply water to Elizabeth. The transmission lines outside of Elizabeth are allocated to the various municipalities served by the Elizabethtown Water Company, in proportion to the population in each and are shown in the following Table "F."

Note.—The inch feet of any main may be ascertained by multiplying the length of the main in feet by its diameter in inches.

TABLE "F"

AS OF DECEMBER 31ST, 1920

MUNICIPALITY	*Population 1920*		*Inch-Feet of Mains 12-31-20*			*Fire Hydrants*			*In.-Ft. Chg.*	*Hydrant Chg.*		*Total Fire*
	Amt.	*%*	*Transm.* 20" 24" 36"	*Distbn.* 4" to 8"	*Total*	*Co.*	*City*	*Total*	*at 1c.*	*at $10*	*at $2*	*Service Chg.*
Elizabeth City, ...	95,783	83.89	3,653,745	3,935,144	7,588,889	..	596	596	$75,889	....	$1192	$77,081
Union Township, ...	3,962	3.47	151,132	362,430	513,562	..	34	34	5,136	....	68	5,204
Linden Township, ...	6,612	5.79	252,178	934,926	1,187,104	..	61	61	11,871	....	122	11,993
Hillside Township, ...	5,267	4.61	200,784	408,838	609,622	..	40	40	6,096	....	80	6,176
Clark Township, ...	794	.70	30,488	33,900	64,388	..	...	...	644	....	....	644
Roselle Borough, Est., .	43	.....	.....	3,500	3,500	2	...	2	35	$20	....	55
Linden Borough, ...	1,756	1.54	67,073	197,192	264,265	22	...	22	2,643	220	....	2,863
Total, ...	114,174	100.00	4,355,400	5,875,930	10,231,330	24	731	755	$102,314	$240	$1462	$104,016

The above rates are to be applied to each customer, as defined in the Board's Rules, Regulations and Recommendations for Water Utilities.

Bills for flat rate service will be payable six months in advance beginning on the first days of October and April in each year. Bills for metered service will be payable quarterly, July 1, October 1, January 1 and April 1, on the meter readings for the water taken during the preceding three months in each quarter. The public charges will be payable quarterly on July 1, October 1, January 1 and April 1.

The above schedule of rates will be effective for the quarter commencing April 1, 1922, except that the public charges will be effective from April 5, 1922.

The company will return to its consumers billed for the period from October 1, 1921, to April 1, 1922, a sum equal to their proportional part of the difference between the net revenue calculated under the rates filed by it in March, 1921, and the net revenue found by the Board as reasonable for that period.

Dated April 1, 1922.

ELIZABETHTOWN WATER COMPANY,
By J. H. KEAN,

President.

BOARD OF PUBLIC UTILITY COMMISSIONERS,
NEWARK, N. J., Thursday, May 19, 1921.

ELIZABETHTOWN WATER COMPANY, WATCHUNG WATER COMPANY, RARITAN TOWNSHIP WATER COMPANY, PISCATAWAY WATER COMPANY: IN RE INCREASED RATES.

Before the following Commissioners: President, J. J. Treacy, Esq., Harry V. Osborne, Esq., Harry Bacharach, Esq., L. E. Herrmann, Esq., Counsel.

For the Elizabethtown Water Company, Watchung Water Company, Raritan Township Water Company and Piscataway Water Company appears: W. M. Wherry, Esq.

For City of Elizabeth appears: Joseph T. Hague, Esq.

For Township of Union appears: John K. English, Esq.

For Borough of Dunellen and Township of Piscataway appears: R. P. F. Von Minden, Esq.

For Arbor, New Jersey, appears: John J. Kohn, Esq. (P. O. Address Dunellen, N. J.)

Commissioner Treacy—Are these water companies represented by different counsel?

Mr. Wherry—No, they are all represented by one counsel, and the Elizabethtown rate practically depends on the rates to the other companies.

Commissioner Treacy—Depends on the rates to the other companies?

Mr. Wherry—Yes. They ought really to be taken up together and heard as a whole because the Elizabeth-

town is interested in the rate to the other companies.

Commissioner Treacy—You think we can hear them all at the same time?

Mr. Wherry—I think that is about the only way you can make progress with it.

Commissioner Treacy—Then we will call the Watchung Water Company case and I suppose the proofs in that will be pretty much the same as in all the cases.

Mr. Wherry—Well, you see the proposed increase that the Watchung makes, the proposed increase that the Piscataway makes and the proposed increase that the Raritan makes is practically all to the Elizabethtown Water Company.

Commissioner Treacy—They supply the Elizabethtown Company.

Mr. Wherry—They only supplied that one, practically the sole customer. The Watchung has some individual customers on the line, but we were not proposing to increase the rate to those customers except—I mean the increase to those customers would depend on the rate to the Elizabethtown Company, so that the key to the whole question is the Elizabethtown Company. It is interested in each of the other companies. It seems to me if you consolidate these hearings, and we can put in to-day the appraisals of all the companies, just the valuation, the backbone of all of them, and furnish that to the Board's attorney and to the attorneys who appear here for the municipalities, that will give them the backbone of the case, so they can adjourn the cross-examination on that to the next hearing, and then we can put in the balance of the case.

Commissioner Treacy—All right, suppose you proceed.

Mr. Hague—Mr. Commissioner, representing Elizabeth, if these various concerns sell water to the Elizabethtown Company, I do not see where we are interested in the valuation of those plants. I do not see where we

are interested in any other plant but the Elizabethtown plant. If the water is sold by those concerns to the Elizabethtown Company, I think we are not concerned with the valuation of those plants. I do not see why we should go into a defense of those other concerns.

Commissioner Treacy—You don't have to if you don't want to.

Mr. Wherry—They don't have to, but of course the question of the reasonableness of the rate charged to the Elizabethtown Company would depend on the others.

Mr. Von Minden—I respectfully submit the same argument as the gentleman on my right. I represent two municipalities and we are not interested in the Elizabethtown Company in any way whatever.

Commissioner Treacy—You are not interested in the Elizabethtown?

Mr. Von Minden—No, we are interested in the Watchung Water Company's raise particularly.

Commissioner Treacy—Mr. Wherry proposes to show what the valuation of the Watchung Water Company is, so that you are interested in that.

Mr. Von Minden—And that only.

Commissioner Treacy—Let each take whatever case he is interested in, the fact being that these other water companies, other than the Elizabethtown, apparently are delivering water to the Elizabethtown, and the other water companies desire an increase in rates from the Elizabethtown Company, and the Elizabethtown Company apparently desires an increase because of the fact that the rates are increased to them by the other companies, is that it?

Mr. Wherry—Exactly.

Mr. Hague—May I ask if statements have been filed by all of these different water companies requesting increases?

Commissioner Treacy—Statements, yes.

Mr. Hague—Similar to the one in the Elizabethtown case?

Commissioner Treacy—Here is the statement by the Watchung Company.

Mr. Hague—Under the rules of the Board, are we entitled to a copy to be served on the parties in interest?

Commissioner Treacy—I do not think the Board has any rules on that, but you are perfectly free to get a copy of them.

Mr. Hague—I have nothing but the one for Elizabethtown.

Mr. Wherry—I haven't extra copies of that to-day. I can furnish extra copies to those who appear.

Commissioner Treacy—All right; you can furnish copies.

Mr. Wherry—Yes; if I have the list of the attorneys who appear here to-day.

Mr. Hague—I have a copy from the Board's stenographer myself, as far as Elizabethtown is concerned.

Commissioner Treacy—Here are the Watchung, the Raritan and the Piscataway. Mr. Hague, the representatives of those other municipalities must have some notice of these increases of rates. Notices were published as required by the Board, weren't they, Mr. Wherry?

Mr. Wherry—Yes, we published all the notices and we served—

Commissioner Treacy—They must know what the increases are.

Mr. Wherry—We served the municipalities. I will put Mr. Whelan on so as to have it put on the record, just what we did in the way of giving notice, because it is very important our record should be straight on that.

Mr. Hague—It was not the notice I had in mind. It was the statement upon which the petition is predicated.

Commissioner Osborne—You mean the schedule of rates?

Mr. Hague—The schedule of rates. It is called here a statement, the one I received from the stenographer. I have the one so far as Elizabethtown Water Company is concerned, but being the cases have been consolidated, I wanted to know if I would be furnished with the other companies.

Commissioner Osborne—Your municipality takes water from the Elizabethtown Company?

Mr. Hague—I represent the city of Elizabeth, which takes practically the bulk of the Elizabethtown Company.

Commissioner Osborne—You represent Elizabeth, and you get your water from the Elizabethtown Company?

Mr. Hague—Yes, sir.

Commissioner Osborne—And the reason you haven't these other statements because you have no contractual relation between the other companies and the municipality?

Mr. Hague—Yes. We also get water from the Plainfield-Union.

Commissioner Osborne—You don't get it from the Watchung, Raritan or the Piscataway direct by any contract?

Mr. Hague—Through the Elizabethtown.

Commissioner Osborne—But you have no contract with these other companies, have you?

Mr. Hague—No.

Commissioner Osborne—So that your contractual relation is with the Elizabethtown Water Company?

Mr. Hague—Yes, there is also another water company, the Plainfield-Union, which has no connection with the Elizabethtown, which supplies a portion of it.

Mr. Von Minden—Neither Piscataway Township or the Borough of Dunellen have been served with any statements.

Commissioner Treacy—Have you been served with notice of an increase in rates, what the proposed increase of rates was?

Mr. Von Minden—Simply a letter from the water company.

Commissioner Treacy—Yes, that embodies it.

Mr. Von Minden—We know what the increase will be, but we have no statement of rates, schedule of rates or anything of that sort.

Commissioner Treacy—Of course the Board requires a statement to be filed under its ruling, but there is no provision for service of the statement upon all the municipalities. You are free to look at our copy of the statement if you desire. What township are you interested in?

Mr. Von Minden—Township of Piscataway and Borough of Dunellen.

Commissioner Treacy—Here is the Piscataway Water Company, Watchung Water Company and the Raritan Township Water Company. If you and Mr. Hague will take those, you can look them over, returning them to us when you get through.

Now, Mr. Wherry, suppose you make a statement of the various questions that are involved here, showing how the rates of these companies are dependent upon one another, that is, the Elizabethtown dependent upon the others, and what the increases asked in each case are, stating the relations between the various companies.

Mr. Wherry—The main company here is the Elizabethtown Water Company, and that company supplies the City of Elizabeth, the Borough of Linden, the Boroughs of Roselle and Roselle Park and the Townships of Linden, Clark, Union, Hillside and Springfield. That company obtains its water from the Piscataway Company, the Raritan Company and the Watchung Company, which are now before this Board in this application. It also gets water from the Middlesex Company, and I am not certain but from some other sources. But the Middlesex Company has been before the Board and has received permission to increase its rates and has put an increase of rates into effect, which increase has increased the operating costs of the Elizabethtown Com-

pany. Now, the Middlesex Company is not here in this proceeding, but that increase which the Middlesex obtained does increase the operating costs of the Elizabethtown Water Company. The Elizabethtown Water Company and these other three companies, the Piscataway, Raritan and Watchung are closely affiliated, and it seemed to us it was much better to bring them all before the Board at once and present the whole problem because every increase in those operating expenses of the Elizabethtown Water Company affects the cost of the service to the consumers of the Elizabethtown Water Company.

The Watchung Water Company is the only one of these three subsidiaries that has any substantial service outside of the water that it furnishes to the Elizabethtown Water Company. It has a number of local consumers, scattered consumers; they are taken on more as an adjunct to its main customer which is the Elizabethtown Water Company. We propose with respect to that company to make the increase in rates the same to those individual consumers as the increase that we ask for to the Elizabethtown Water Company. We ask for a uniform increase of forty per cent. there to apply to all the customers of the Watchung Water Company. Now, of course, the consumers of Elizabeth are interested, in the first place, regardless of whether the forty per cent. is the correct amount or not, they are interested in that distribution because they might contend that the outside customers of the Watchung Company ought to have a larger proportion of the cost of the service than the Elizabethtown Company. So that they are interested right there at that point of it. The forty per cent. increase asked for there was arrived at after a study of the value of the property of the Watchung Company. We had a valuation made of all of these companies, and the valuation is all on the same principle.

Commissioner Treacy—Now, in your increase of forty per cent. to the Elizabethtown Company does the

Watchung Company make any increase to its other customers?

Mr. Wherry—I was speaking there of the Watchung Water Company. It makes an increase, it proposes an increase of forty per cent. to all its customers, forty per cent. to the Elizabethtown Company and forty per cent. to all its outside customers. And I say, the Elizabethtown consumer might be interested in whether that forty per cent. should be—whether the gross amount there should be distributed sixty to its other customers and thirty per cent. to Elizabeth, or some other way. The increase asked for takes care of an increase in operating expenses, and in taxes, and then it also takes care of the fair return which the company is entitled to. The increase is made necessary because of the great increases in operating costs and in taxes. We have taken into account not only in making the valuation of the property, but in estimating the operating costs, that the peak of high costs will not be maintained, but there will be a falling off, and we tried to find what would be the more or less permanent basis of costs to go on. Taxes, however, apparently never reach the peak; they apparently go on increasing. In the case of the Hackensack Company, for instance, the Board gave an increase in rates, and then the municipalities increased their taxes, so that out of their increase of $400,000 they take $200,000 that was intended to take care not merely of the taxes, but of various increases, and we have to come back again. Now, we have tried to estimate that as well as we can. Of course, I am only trying to state this as we go along. So that in the Watchung Company—and we followed the same thing in each of the companies—we made a valuation; we made an analysis, an estimate of their operating costs and their taxes, trying to get at what is going to be, what is then confronting the company and what is going to continue to confront the company, and then estimated what would be necessary in the way of increase in revenue to take care of the deficiency that that developed, and divided

that increase uniformly among all the customers, so the outside customers would pay their same proportion as we ask from Elizabeth.

I next come to the Piscataway Company. The Piscataway Company practically has no outside customers of any large number; the proportion is very small. The ordinance in regard to the operation of this company in Piscataway requires the company to charge the same rates as are charged in the City of Plainfield, and we have not attempted to disturb the rate to the outside customer because it would produce very little increase in revenue, it would make a very insubstantial difference in the amounts of revenue, or would not affect Elizabeth very much. So that there is the largest customer, practically the whole business, is supplying Elizabeth with water, and they have charged a fixed charge there which is very much less than the cost of that service, so that we have proposed an increase to cover that. They have in the past, with respect to Piscataway, been capitalizing that deficiency by having the Elizabethtown Company lend the money to the Piscataway, but that seems a bad policy, and rather deceives you as to the actual cost of service, and sooner or later it will have to be attended to. So we are proposing to make the charge of that company to Elizabeth take care of the actual cost of the service to Elizabeth, including a fair return on the property invested in that company.

Commissioner Osborne—Then the Elizabethtown Company is merely a distributing company?

Mr. Wherry—For that company.

Commissioner Osborne—For all of the business?

Mr. Wherry—Not for the Watchung.

Commissioner Osborne—It distributes; it does not gather the water?

Mr. Wherry—Yes, it does; it has its own sources of supply.

Commissioner Osborne—In addition to receiving sources of supply from these other companies?

Mr. Wherry—Yes.

Mr. Hague—But not sufficient to furnish the city?

Commissioner Treacy—It buys the water it needs from these other companies.

Mr. Wherry—It gets additional sources of supply. The point is this: that the water supply in the county, Union County, for the city is not sufficient for the City of Elizabeth. In order to get a water supply sufficient for the needs of that territory of Elizabeth it is necessary to go into another territory to take water, and these other companies were organized in order to increase the water supply for the City of Elizabeth.

Commissioner Treacy—I think we understand the situation now.

Mr. Wherry—Well, the same thing with respect to Piscataway—

Commissioner Bacharach—The same percentage of increase, forty per cent. you are asking for.

Mr. Wherry—With respect to Piscataway?

Commissioner Bacharach—Yes.

Mr. Wherry—No. I have not put it in the way of a percentage. I have put it in the amount of a certain lump sum per annum to be paid, and that looks as if it would be the average cost of that service.

The same thing is true with the Raritan. The problem is to find what is a fair sum to be charged by those companies for that service which they render, for collecting and in part distributing water to the Elizabethtown Company.

Then you come to the problem of the Elizabethtown Company. The Elizabethtown Company not only gets its water from these three companies, but also from the Middlesex Company, as I stated, and then it has its own water supplies. It has had increases in cost, and it has had increases in taxes. The proposed increase here is a uniform increase, without changing the way in which the rate is at present distributed among the different customers; just a uniform increase of fifty per cent.

The percentage here is fifty per cent., the percentage in the Watchung Company is forty per cent., because

that difference in percentage is really the measure of the difference between the deficiency of earnings; it is between what they ought to earn and what they now earn. There is no particular significance in the fact that one is fifty per cent. and the other is forty. The same principle has been applied by us throughout. We have taken and valued all these properties on the same method of valuation, estimated their operating expenses by the same principle, sought to divide the costs in the same way they are now being divided, and ascertained what the deficiency in earnings was and then have asked for an increase to cover that.

One thing I want to call attention to is that the companies have not had any increases during the period of rising costs. They have never adjusted their revenues to meet these increased costs. We have never had any appraisal by the Board or by any other tribunal, so we come here with a fresh appraisal. We file these rate schedules with the statements, and we put in our notice that they would go into effect as of the first of April, I think, but we would not attempt to collect them or add them to any bills until October, so as to give an opportunity to have a hearing on it and present the case. An order of suspenson has been entered.

Now I would like to suggest this as a method of presenting the case; we have, first of all, as the backbone of the whole problem, this question of valuation, and then the problem of what is a fair return on that value. The question of the valuation has got to be taken up first, because some of your costs depend on that valuation; the question of your depreciation allowance depends on it. Then the second branch of the case is the gross income required, in order to give the fair return on that value, which the company has got to earn on the property. That gross income will include the amount that is necessary to meet your taxes, your operating costs, your fair allowance and reserve for depreciation, and all the operating expenses of the com-

pany. So that I would be prepared to put in the valuation of the whole property to-day with my first witness, who has been the witness that I have to rely on for the whole thing, in developing the whole rate structure. I will put in the whole case through him. We will go as far as we can. Of course the municipalities will want to cross-examine on the valuation. I think I can put in and furnish to them the whole case and then let them examine those documents, and we get a day, as early as the Board can give, for the cross-examination. I would rather finish with one witness before I take up another witness if that is agreeable. We could simply put in the valuation to-day, without trying to go into the questions of gross income required.

Mr. Herrmann—I desire to call the Board's attention to a state of facts that exists here, which the Board might feel inclined to consider at this time. These companies have been before this Board in a number of cases recently, and unofficially, if not officially, it has been indicated to them that inasmuch as the stock ownership of all these companies is solely in the Elizabethtown Company, there should be a merger. There isn't any real reason for the existence of these companies individually. For example, in the annual report of the Elizabethtown Water Company of 1920, on page 5: corporations controlled by respondent are the following: Piscataway Water Company, sole control and ownership through directors and loans; Raritan Water Company, sole ownership; Watchung Water Company, joint ownership through directorate, the other party to the agreement for the joint control being the Piscataway Water Company. So that there are no outside interests to be considered here other than the Elizabethtown Water Company. The stock of all these underlying companies is solely owned by the parent company. It is now proposed in these proceedings to have a separate consideration wherein a charge is to be imposed by these subsidiary companies to the parent company, and passed on by the parent company to the con-

sumer. I indicate that. So that I think that had the suggestions, either official or unofficial, of the Board been adopted, there would have been a merger of these companes. There isn't any reason for their sole, separate existence.

In February of last year there was a very exhaustive hearing held by the Board in the matter of the investigation of the service afforded by the Plainfield-Union Water Company, the Elizabethtown Water Company, the Middlesex Water Company and the Watchung Water Company. That resulted in the filing by the Board of a very comprehensive report, in which it concluded without reading the whole report): "The Board therefore finds and determines that the service furnished by the Elizabethtown Water Company is inadequate and insufficient. The quantity of water available is insufficient and must either be immediately augmented or must be conserved through the installation of meters. The testimony shows that the increase in the quantity of water available cannot be expected short of two years under the best conditions, and in consequence the installation of meters is the only remedy immediately available by which the existing quantity of water can be made to furnish substantially the service now demanded. The pressures under which water is being obtained in various parts of the city of Elizabeth are altogether too low, and must, as promptly as possible, be raised to such a point in each locality as will serve to furnish an adequate supply of water to all fixtures in all buildings now found in the City of Elizabeth. Under existing conditions regarding the quantity of water available, it will be impracticable to require the increase of pressure to the extent referred to. It appears to have been the practice of the company to operate the system under such conditions that the pressure at the so-called equalizing plant in the City of Elizabeth would be maintained at between thirty-five and forty pounds. The slight increase to forty-five pounds would make a material improvement in the pressure conditions in a large part of

the city, and such increase should be immediately made and maintained. The only exception to this would be in case of a severe drought during the coming summer." The testimony in that case was appalling, in that it showed that in many of the residences in part of Elizabeth they were unable to obtain water above the first story. An expert named Sherrerd, produced by the company, in answer to a question as to whether in the event of a conflagration there would be any danger because of inadequate pressures, said there certainly would. In answer to a question if there would be any direful results from an epidemic because of the scarcity of water, he said, "undoubtedly." This order was made requiring the company, inasmuch as the available sources of supply could not be augmented for a period of two years, to conserve its present supply by installing a number of meters, indicating the time within which they should be installed. That has been opposed by the company to the extent that they sued out a certiorari in the Supreme Court and are resisting the Board's order. In the meantime the service in Elizabeth continues as it always has been, absolutely insufficient and inadequate.

Now, then, following the later decision in the Jersey Central Traction case in the Supreme Court, this Board is justified in not considering increased rates where the facilities are not furnished. The company has absolutely taken as its only stand in the Supreme Court that it has not the money wherewith to install these meters, and declines to install them. In the meantime this condition exists, so I anticipate if an inspection were now made, the same condition would exist as existed in the service case, that people are obliged to pay for water on these yearly charges for water they are unable to receive. Now, it would seem to me those matters should be considered by the Board before the case proceeds.

Mr. Hague—I was going to bring the same facts before the Board. Those conditions still prevail in the City of Elizabeth. The order of the Board has not been obeyed.

Commissioner Treacy—Do I understand that an order of the Board was issued on that report?

Mr. Herrmann—Yes, sir; requiring the company to install meters in order to partially relieve the terrible condition that existed. It appeared in that case that a new supply would necessarily have to be developed and that that would take two years. In the meantime they were to meter the system so as to avoid the waste of water and conserve the supply, so in so far as the Board was able, it gave the people there some temporary relief.

Commissioner Treacy—Mr. Wherry, have you anything to say with reference to Mr. Herrmann's statement?

Mr. Wherry—As far as the question of compliance with the Board's order is concerned, that matter of the order itself is now in the court. The company is putting in 1,200 meters a year. The question involved there is, what is it possible for the company to do in the way of putting in meters? As to the question of the consolidation of the companies, that is a matter which is directly related to the getting of additional water supplies. The stock of some of these companies is not solely owned by this company, although they control the operation and direction of it. We have treated them in this case as being just as if they had been consolidated.

Commissioner Treacy—I do not think the matter of consolidation enters into this case, which is an application for increase in rates. It would not make any difference whether the companies were consolidated or in separate units, so far as increases in rates might be concerned, if it should be proved the increases in rates were necessary, unless there was something to show that the consolidation would mean economies in management and savings that would not require increases of rates. So you need not address yourself to that part of Mr. Herrmann's statement. But as to the other, as to fail-

ure to render proper service to the City of Elizabeth, the Board would like to hear you.

Mr. Wherry—There is no question, if it please the Board, that not only the Elizabethtown Water Company, but the Plainfield-Union Water Company and the Middlesex Water Company are confronted with, and have been for a considerable time, a serious problem with respect to developing additional water supplies. Those additional water supplies cannot be developed without having some financing plan, and they cannot be developed at all without an adequate income to those companies as the basis of the development of the service. The mere installation of meters has been a very difficult and serious thing for the company. 1,200 meters does not sound like a whole lot until you begin to put 1,200 meters in in a year.

Commissioner Bacharach—What is the cost of 1,200 meters?

Mr. Wherry—I was thinking not merely of the cost of it but of getting your labor, your expert workmen.

Commissioner Bacharach—You don't need any experts for putting in meters, do you.

Mr. Wherry—All those meters have to be tested before they are put in. There is expert work involved in every meter you install. The cost is about twenty dollars a meter to install them, at the rate we have been doing it, 1,200 a year.

Commissioner Bacharach—What size meter are they, do you know, that cost twenty dollars?

Mr. Wherry—Mr. Whelan can tell better than I can. As a matter of fact I have had no connection with the service case that was presented here, the complaints of service. To-day we have no outstanding complaints that the company has received with regard to the service which we have been rendering. We have been endeavoring to meet the requirements there.

The meters vary from a five-eighth-inch meter, Mr. Whelan tells me, to a one and eighth-inch meter in the

house meters, a five-eighths-inch meter to install costs about twenty dollars per meter.

This whole question of what service a company can give to a community is tied right up with the amount of income that a company can get.

Commissioner Osborne—You cannot expect to get your rate until you furnish the service, can you?

Mr. Wherry—I think that is putting the cart before the horse. I don't know how you could expect to get the service—

Commissioner Osborne—You have gone into a field in which you have undertaken to do something for the public. As the basis for that you want to charge a rate. How can you expect to charge a rate until you perform your end of the contract, that is to say, until you furnish service.

Mr. Wherry—You can furnish some service at a certain cost; to furnish another service will cost you more, and you cannot give the better service until you get the revenue that will meet that cost.

Commissioner Osborne—You cannot expect to get your capital out of the rate to make these capital improvements?

Mr. Wherry—No, but you cannot get the capital at all unless you can earn enough to pay the inducement, the cost of getting capital into it.

Commissioner Osborne—The trouble is, you put the cart before the horse, it seems to me.

Mr. Wherry—I am thinking of it just the other way.

Commissioner Osborne—You are thinking of it from your point of view. You want to get your rate and then furnish your service afterwards. The public is entitled to have you furnish the service before you expect to charge them for it, because that is what you have undertaken to do when you went into the business. When you go to a store to buy something you don't pay down your money and then get your goods.

New Jersey State Library

Mr. Wherry—You expect to furnish the service for the cost of it, and not to charge more for the service than the cost of it?

Commissioner Osborne—You are entitled to have the cost of it if it is reasonable. But you are not furnishing the service that you ask to be paid for according to this report.

Mr. Wherry—Well, that is where we differ, I think. That is why the case went into court.

Commissioner Osborne—I do not imagine this Board would go back behind the finding in that report. That question is *res adjudicata.*

Mr. Wherry—Where is that case now?

Mr. Herrmann—That case was allowed to rest for one term and was argued at the last term of the Supreme Court in February, I think it was.

Commissioner Osborne—Well, so far as this Board is concerned, that order is now the order of the Board and will remain the order of the Board until the court disturbs it.

Mr. Wherry—May I see a copy of that order? I was not a party to it.

Commissioner Treacy—Is there any question about the correctness of Mr. Herrmann's statement as to the non-compliance with the previous order of the Board as to service?

Mr. Wherry—I did not know this point was going to be raised. I was not in that case and I do not like to make a statement to the Board without knowing the exact facts in regard to that service case, in regard to the compliance with the order, and would like to ascertain those facts before I speak to the Board. The fact of the matter is it is not like selling goods, where you put up a certain amount of goods and you make any profit which you can, and you sell them if you satisfy your customer. The company is in a business here where you have got to finance capital improvements with the restrictions that are thrown about it by public regulation, and you cannot make those improvements without

getting the money, and you cannot get the money without being able to show the person who puts the money in that you are going to be able to meet his terms and conditions. The company is going to put in these meters as rapidly as possible; the whole point has been the question of the cost of them.

Commissioner Treacy—Of course, the company is not entitled to anything more than the value of the service that it renders to the customer, no matter what your valuation may be of what other theories there may be in the case, that is all that the company would be entitled to. Now, if the company is not rendering adequate service, and if this Board has found that the company has not complied with its—if this Board has ordered the company to render adequate service, I do not think, the Board does not think, that you are in a position to come to this Board and ask for an increase in rates based upon what is admittedly inadequate service.

Mr. Wherry—Of course, we do not admit the inadequacy of the service. You mean, where it has been adjudicated to be inadequate service?

Commissioner Treacy—Yes.

Mr. Wherry—The point I make there is this: Of course, we cannot charge more than the value of the service, but then we are entitled to have the value of the service established by proof to show whether the service is worth less than the cost of rendering it. Now, we have got to start somewhere with our case. We are prepared to show what the cost of rendering the service is, also prepared to show what the value of the service is. Of course, the question would be, that the value is equal to the cost of giving it if the service is fairly adequate.

Commissioner Treacy—I do not think you can go that far. I do not think you are entitled to ask this Board to establish a rate upon service that is not proper and adequate. I do not think you can give a slip shod service and then come in and ask the Board to fix a rate upon that kind of service. This Board's duty is to fix

just and reasonable rates based upon adequate and proper service.

Mr. Wherry—Yes, and then the Board has another duty, of determining in a service case, whether the complaints in regard to this service require the installation of new facilities and so forth.

Commissioner Treacy—That is all *res adjudicata,* isn't it?

Mr. Wherry—With respect to this company, I don't know whether—they have an appeal pending, and that is all there is on that. I suppose until the appeal is determind it is *res adjudicata.*

Commissioner Treacy—In the case of the Jersey Central Traction Company, this Board refused to consider an application for increase in rates when an order of the Board previously entered had not been complied with, which order required the rendition of proper service, the service not being adequate. That is the practice established by this Board and it will have to be followed in this case.

Mr. Wherry—Well, of course, that would not preclude us from asking the Board to let us present the evidence, the additional evidence with regard to the service that is being rendered. We have no complaints now with regard to our service.

Commissioner Osborne—You do not contend that you have a right to have a rate increase fixed in anticipation of service which you may render some day, do you?

Mr. Wherry—No, I think the rate has got to be fixed with reference to the service actually being rendered, the fair value of that service. But I do think that the question of what is a reasonable, fair and adequate service does to some extent depend upon the cost of the service. That is, you can take a municipality where to get a water pressure of sixty pounds from the water company would require the expenditure of $200,000, whereas that municipality, by purchasing proper and adequate fire equipment, could use twenty pounds pres-

sure and have full fire protection, and the equipment would cost twenty thousand dollars to the municipality. Now, whether proper, adequate and safe fire protection for that municipality is twenty pounds or sixty pounds is a question of balancing those two costs. If the company is furnishing twenty pounds pressure, and it would cost in order to give it sixty pounds pressure—that is, the additional facilities would mean an expenditure of $200,000, whereas the municipality by putting out twenty thousand dollars can get fire equipment, I would say that place had adequate and safe fire protection service and it was up to the municipality to furnish equipment that would enable it to take advantage of it.

Commissioner Osborne—That might be true, but isn't your difficulty this: that at this present rate this Board has determined that your service was inadequate and has gone into all that question, into all those questions of fact. What you are asking us to do is to practically go into them again.

Mr. Wherry—You see the difficulty that I am now confronted with, practically, in arguing this before you, is that I do not really know the extent of that order the Board really made. I thought that order was a direction to the company to install certain facilities to improve the conservation of its water supply, these facilities being meters. The Board ordered them to put in five thousand meters a year, something of that sort, and the company could only finance and put in 1,200 meters a year, and claimed the requirement of five thousand was more than they could do.

Commissioner Osborne—From Mr. Herrmann's statement that was merely an incident.

Mr. Wherry—Mr. Herrmann's statement I know is much broader than that.

Commissioner Osborne—A temporary method of conserving the supply to partially meet this deficiency.

Mr. Wherry—I know Mr. Herrmann's statement is broader than that. Of course we have really in this whole problem of regulation, right at this point we have

not perhaps the most difficult question that is involved, not merely for the companies but for the Board, because there are many questions in regard to service that ought not to be taken up in a rate case, but should be disposed of in separate hearings in a service case, a service complaint. Now, in the Hackensack case we had a service case which we ran parallel with the application for rates.

Commissioner Treacy—I would say that would be true, Mr. Wherry, where the complaints were spasmodic and scattered, but where it is a complaint as to service that is generally prevalent over the whole territory—

Mr. Wherry—Your Honor referred to the Jersey Central Traction. I was called in as counsel to argue that certiorari before Mr. Justice Kalisch, and I must say that there is a very difficult thing. There was a company that absolutely could not finance the improvement, the facilities. The order was an order of the Board to that company to do certain specific things which required the expenditure of forty thousand dollars, which was all the company possibly could raise. They had a storm which buried part of the track, which was not contemplated at all at the time the order of the Board was made, and they go in and use some of their money to take care of that, to open that, to remedy that trouble, which prevents them from complying fully with the rest of the order of the Board. We have just had a case here in Bergen County, in the Hackensack case, which shows how this question of making your rate depend upon the service—how difficult it is, how conflicting that is going to be if you make those things dependent covenants. In the old contracts you can make an independent or a dependent covenant. You can have the rate fixed and a standard of service fixed and if the standard of service is not complied with you can have a counter claim for the deficiency in the service, or you can deduct that from the rate in fixing it in the first place. In this Hackensack case the Board had directed certain installation of facilities for the Hackensack Company which would take two or three years to

complete. The war came along and the program was taken up in various hearings at different times and modified. One of these municipalities had an outlying sparsely-settled portion and a high point where most of the residences were built, and the board directed a sixteen-inch main to be put in to relieve the pressure conditions on that high point. Now, the rate had been fixed and had been filed, as we suppose, respecting the service which was then being given. The rate was an inch-foot charge for mains then in place and for mains added thereto, so that when the main which would be installed to improve that service was put in, the rate would increase to take care of the additional facility that had been put in there to improve that service. But the municipality contended that they did not have to pay any rate whatsoever; they could take the service, the service that was being rendered; we could not discontinue it, we had to go on rendering the service, it was never interrupted and they contended they could have that service free for the whole period of three years and the company could not charge a cent for it. I do not think that was ever contemplated by the Board when it made that order, because we brought it up a number of times and they have construed their order differently; that the rate which they fixed was for the service then being rendered and it would vary with the costs and increase as new facilities were put in to relieve a condition which confronted us; that we cannot remedy without putting in large capital expenditures. And yet, they succeeded in the court. We contended the matter should be sent back to the Board. That means that the rate which was allocated between these different municipalities and carefully allocated by the Board, the total revenue which was necessary to be derived in order to maintain the service has been diminished by the amount which this particular municipality should have contributed to the general service, and you have either got to increase the rate to the other municipalities because their costs, that portion of the

costs is not being borne, or else you have got to fix that rate for this particular municipality with reference to the service which it is possible to give to it at its high points. You cannot simply go in here and improve the pressure, the quantities of water which we can give to the City of Elizabeth, without additional capital expenditures, and you cannot get that additional capital without the revenues. It has got to come from somewhere. You may borrow the capital instead of saving it out of the rate.

Commissioner Treacy—Suppose you were starting out to establish a water supply system in the City of Elizabeth. You would have to supply the capital yourself in advance in order to build your plant and your distributing system. You could not in that case ask the City of Elizabeth to pay you a rate that would enable you to borrow the capital with which to build the plant.

Mr. Wherry—No.

Commissioner Treacy—Now you are asking the city to pay revenues in advance of the giving of service such as they should have now.

Mr. Wherry—No. I am only asking the city to pay the cost of the service which they are now rendering. Now, if that is not the measure of the value of the service, then, of course, I am only entitled to charge for the value of the service. But, I cannot see that this Board can compel me to give them service and not charge them anything at all for it, simply because the service is not up to some standard which will require a large capital expenditure to bring it up to that standard. We can discontinue our service until we can get our capital improvement; if we were a merchant dealing with goods across the counter, we could discontinue; we don't have to make a sale until we can get the goods the public wants, but being a public service company we have got to go right along and give them service, such service as we are able to give them with the money we have got and with the plant we have got and with the facilities that we can get, and improve those as rapidly as we can.

But we certainly ought to be entitled to a charge that is a fair charge for what we are obliged to give them while we are giving it to them.

Commissioner Treacy—What is the position of that case in the Supreme Court?

Mr. Herrmann—The case has been argued, briefs have been filed and it is awaiting determination.

Commissioner Osborne—You are getting a rate now?

Mr. Wherry—We are getting a rate.

Commissioner Osborne—For the service you are rendering?

Mr. Wherry—We are getting some rate and we are rendering service.

Commissioner Treacy—When do you think the decision will be handed down in that case?

Mr. Herrmann—It is likely to be some time in June, I think.

Mr. Wherry—May it please the Commission, I would much prefer not to present any evidence to-day until I have had an opportunity to investigate this question that Mr. Herrmann raises. I think that really one of the most vital questions in regard to the whole operation of utilities is involved here. I would not for one moment take a position that we want to put into effect a rate which is in excess of the value of the service. I would like to be perfectly sure of my facts with respect to the service conditions that the company is confronted with, and that problem, before I put in the question of value, because my theory is exactly this: the company is entitled to the value of the service; the cost is in general the presumptive evidence of the value of it, but the company has got to be put into a position where it can give a service that the municipality is demanding, and if the municipality is not going to pay for that service it has to be content with the service it does pay for. I would like to present the whole question to the Board so we can work that out in the fairest possible spirit.

About the point that the company is in default on the order, the company is going to comply with the

orders of this Board; it is not defying the orders of the Board in any spirit of defiance.

Commissioner Treacy—We understand that.

Mr. Wherry—There is nothing in the way of a penalty for not having complied with the order. That was what was involved in the Jersey Central Traction case; the Board had felt the company had disregarded its order deliberately and therefor they were not entitled to come in, and that is the way the Court looked at it; that there was a sort of contempt of its order and the Board had a right to punish by saying you cannot come and make another application to us. I want to get that out of this case altogether. We want to give this municipality the very best service it is possible to give them, and we do not want to be charging any more for that service than is a fair, proper and reasonable charge for the company to make. But the difficulties that confront the company are the problem of that municipality just as much as they are of this company, and it is perfectly futile for this Board to order us to make installations and improvements if we cannot finance them and cannot make them, and I think the Board will recognize that and the municipalities will recognize that. If you will adjourn the case to some reasonable date, I will be prepared with a proposition.

Mr. Hague—May I ask the Board if the question to be taken up at the adjourned date is simply the question raised by Mr. Herrmann or whether it is to go on with the main case, in the event of the Board deciding adversely?

Commissioner Treacy—We cannot tell now; it will all depend on the situation presented at that time, after Mr. Wherry's investigation. We cannot tell any more about that than you.

Mr. Hague—What I had in mind was whether we would be expected to go on at that time.

Commissioner Treacy—Yes, you better be prepared.

Mr. Wherry—I will communicate with Mr. Hague what my plan is and what I have to suggest.

Mr. English—Why can't this question be considered by the presentation of written briefs instead of an oral argument, and a date fixed for hearing later. We come into court with our witnesses, and we do not know whether it is purely a legal question or whether testimony is to be taken, and we will go on for a whole day or so.

Commissioner Treacy—That would be all right if we had any days to spare. If we set it down for one day we will have to dispose of the case just as quickly as possible because we haven't any dates on our calendar that we can give—any more dates than necessary.

Mr. English—I understand, but how far off would that date be, sir?

Commissioner Treacy—I am just looking at the calendar now to determine that.

Commissioner Osborne—Perhaps they would be furnishing better service by next September if we put it off to then and give them time to install more meters.

Mr. Hague—That is agreeable to us.

Commissioner Treacy—We suggest that you submit briefs on this point, Mr. Wherry, setting forth your position, and a copy be served on the counsel for the municipalities who have appeared. You can do that within what time?

Mr. Wherry—I could have my brief ready by the sixth of June.

Commissioner Treacy—You can answer it within ten days, so the answers to Mr. Wherry's brief will be filed with the Board and served on Mr. Wherry within ten days, and then we will set the matter down for a hearing date after giving you notice of the date. We cannot fix a day just now. As you probably know, Mr. Wherry and Mr. Hague, we are engaged in several traction company increased rate cases, which, under the law, must have preference, and we have to dispose of those before the fourteenth of July. One of them must be disposed of before the fifteenth of June, but they have

preference under the law. It is therefore very difficult to fix any date at this time.

Mr. Von Minden—In the matter of a brief and a reply, that will take in also the Watchung Water Company, is that it?

Commissioner Treacy—Well, I suppose it would.

Mr. Von Minden—Of course, we do not concede—we do not see why, for instance, the Borough of Dunellen and the Township of Piscataway should be penalized by an increase for the benefit of the water company bringing up its equipment to par for the City of Elizabeth.

Mr. Wherry—There is no proposition of that sort as far as the boroughs are concerned, of any place the Watchung Company is concerned with, there is no increase of rates proposed that would affect anybody but Elizabeth and the Watchung Company, the increase would affect the customers of the Watchung Company other than the Elizabeth Company. I do not suppose the service question would have much influence on that case.

Commissioner Treacy—What was your point, Mr. Von Minden.

Mr. Von Minden—My idea was whether in the brief they will set up the reason why there should be an increase from the Watchung Water Company.

Commissioner Treacy—I do not suppose so. There does not seem to be any question involved as to the service of the Watchung Water Company. It is merely a question as to the service of the Elizabethtown Water Company. The matter will be disposed of in that way

(Mr. Wherry to submit brief by June 6th; reply briefs to be filed ten days thereafter. Date for hearing to be fixed and parties notified.)

THE BOARD OF PUBLIC UTILITY COMMISSIONERS,
STATE OF NEW JERSEY.

ELIZABETHTOWN WATER COMPANY ET AL.,
IN RE INCREASED RATES.

AFFIDAVITS AND PETITION FOR HEARING AND IN OPPOSITION TO MOTION TO DISMISS PROCEEDINGS.

(*Filed June 6, 1921.*)

STATE OF NEW JERSEY, }
COUNTY OF UNION, } *ss.*

John W. Whelan, being duly sworn on his oath, says:

1. I am the Secretary and Treasurer of the Elizabethtown Water Company, and have held these offices continuously for more than twenty years last past, and I am familiar with the property, business, financial affairs and conditions of the said Company.

2. The Elizabethtown Water Company was organized in 1854, and since then has continuously been serving the City of Elizabeth and the adjoining boroughs and townships of Hillside, Union, Clark and Linden as a public utility supplying water for domestic use, manufacturing purposes and for public uses.

The duties which are imposed upon the Company by its charter and which it has been performing under that charter as an instrumentality of the State are perpetual in character, and extend as far into the future as in the past unless the Company is compelled to abandon the performance of these duties by force beyond its control.

The adequacy and propriety of the service and the needs of that service cannot be measured by ephemeral standards or temporary periods. Its operations must be regulated with reference to this fundamental fact.

At the outset, when the Company was first organized, the population was small and scattered, but the popula-

tion which it now serves has grown to 114,174 persons by the last census, and as it has grown the population has become denser, the buildings more numerous and less scattered.

The population has not always grown in the same direction, nor with the same constancy. At the same time, the character of the service required of the Company has not been the same at every period but has changed from time to time and is still changing.

3. The services which the Company performs can be divided in three distinct classes:

(1) The delivery of a quantity of water for domestic, commercial or public uses to meet a comparatively constant demand;

(2) The readiness to deliver in a sudden emergency a large quantity of water; and

(3) The provision for the future growth and needs of the community.

This last service is related to the former two services. It involves the study of the probable growth, of the community and the direction of that growth, the character of the population, the kind and quantity of water which that population will require; the study of available sources of supply, the planning of the development of such sources of supply, and the planning of transmission, transportation and distribution facilities. In connection with this service, the Company has to devise means of financing the capital improvements necessary to carry out these plans, and at all times it has had as a management problem the task of fixing its rates so as to be able to compete in a competitive market for the capital required for the business and to induce investment of capital in the business and its continuance therein.

From time to time during the history of the Company one or the other of these services rendered becomes more important.

In the early days of the Company, when the population was more scattered and less numerous, and con-

tained few and small business enterprises, the chief service the Company performed was the first above defined, delivery of a quantity of water for domestic, commercial and public uses. The need to develop a large supply and a large capacity of pipe for a sudden emergency did not arise until the population became more dense, the buildings more crowded and fire hazard more pronounced. It was also the growth of the population and large demands of other communities upon the water resources of the State and the tremendous competition for capital in the markets of the world that has made the third class of service above defined more difficult and more important to the community at the present time than any other service which the Company performs.

The compensation of the Company for all three classes of service is only derived from the rates. It has no subsidies or other aid from State or municipality. The fair return for the entire service which it renders is derived from the rates for the water delivered and sold by it to its customers.

4. Last year the Company and subsidiaries received a net return of $154,472 for the above services, of which the Elizabethtown Water Company receives $135,104. To-day these earnings are less. This is far less than the value of these services. It is also less than the needs of the business, so much so that if it isn't increased it will be impossible for this Company to continue in business, because it will be impossible for the Company to secure the capital which is necessary in order to make improvements in its plant, to maintain its service and provide for the demands and needs of the population.

It is for this reason that the Company has called upon the Board of Public Utility Commissioners to perform the duty imposed upon it by statute and to assist the Company in the performance of its public function by approving a rate which shall be not only a fair and reasonable return for the services rendered, but also sufficient to enable the Company to discharge its duties.

5. The rate filed March 1, 1921, by the Company is barely sufficient to meet the cost of the operations and to pay a fair return on the fair value of its property.

The fair value of the property of the Elizabethtown Water Company and subsidiaries devoted to the public service of this system, as of January 1, 1921, is $5,350,000, of which the Elizabethtown Water Company's property is worth $4,080,000.

This valuation is, in my opinion, a conservative one. It is based upon an exhaustive study made by Hill and Ferguson of the property of this Company. The net return which the Company is receiving on this property is approximately 3 per cent. of its fair value. To-day capital is demanding and obtaining more than 8 per cent. for investing in enterprises of less risk.

The gross income which this Company requires in order to meet its operating costs, its taxes, and to procure for it a fair rate of return on the fair value of its capital invested, would have to be as follows:

Fair net return, 8 per cent. of $4,080,000, . .		$326,400
OPERATING EXPENSES.		
Water purchased, ...	$182,382	
Other operating expenses, ...	361,573	
		543,955
Taxes, ...	$214,562	
Reserve for depreciation, ...	53,070	
		267,632

Gross income required for the year 1920, $1,137,987

All the above figures are based on the system as a whole and on facts and estimates made as of January 1, 1921.

The estimated revenue which the Company can expect to receive under the present rates is $642,689; under the proposed rate is $964,000.

In order that the Company might receive a fair return of 8 per cent. on the fair value of the property invested, it would be necessary to increase the rates 77 per cent. The rate which the Company has filed only increases the existing rates by 50 per cent.

The rate which the Company filed with the Board of Public Utility Commissioners on March 1, 1921, is less than the fair and reasonable cost of the service which the Company renders. The actual cost of allowing the capital invested in this property to remain therein is measured by the fair return which that capital could secure if it was withdrawn from the business and invested elsewhere. Any such investment would yield over 8 per cent.

The value of the service for domestic and commercial uses is in excess of $968,701 per annum. The value of the fire service now rendered by this Company is in excess of $169,286 per annum.

The value of the total service rendered by this Company is in excess of $1,137,987.

The fire service rendered by this Company consists of the maintenance of 9,832,916 inch feet of transmission and distribution system and 735 hydrants, of which 711 are owned and maintained by the municipality. The cost of the fire service is 21.6 times the revenue yielded by the present rates charged to the municipalities for this service.

6. The Company has received no complaints during the past twelve months in respect to the service.

At the same time, this Company has repeatedly called the attention of this Board and of the municipalities which it serves to the problem of acquiring additional sources of water supply to take care of the future.

The Company is deriving its water from twelve different sources. Three of these sources, including two well developments and one filtered surface supply, are owned and operated by the Elizabethtown Water Company. A well supply at Bound Book, New Jersey, is owned and operated by the Piscataway Water Com-

pany, and the water is practically entirely devoted to the service of the customers of the Elizabethtown Water Company. Another well supply, located 1½ miles northeast of Bound Brook, is owned and operated by the Watchung Water Company. The remaining supplies are operated by other companies and municipalities, namely, by the Middlesex Water Company, Plainfield-Union Water Company, Commonwealth Water Company, Short Hills Water Company, Rahway Water Works and Newark City Water Works.

The total estimated yield of the three sources owned and operated by the Elizabethtown Water Company is about ten million gallons daily. The total consumption is approximately twenty million gallons daily. The prices at which the Company was able to obtain water before the war were most favorable, and so long as the outside sources were sufficient to supply the needs of the Company little financial benefit would have been secured by developing its own sources of supply. Nevertheless, the Company anticipated that it would be necessary to secure an additional source of supply and contemplated the development of the Raritan River to furnish twenty million gallons daily. Accordingly, it took steps and has acquired property along the Raritan River and has made some expenditures in connection with the development of this supply. Before the outbreak of the World War the Company succeeded in laying a 36-inch main from the City of Elizabeth to Bound Brook, a distance of 20 miles, at a cost of more than $580,000.

The development of the supply has been delayed for various reasons beyond the control of the Elizabethtown Water Company, and permission to develop the Raritan River was secured from the State Conservation Commission only two years ago, after appeals to the courts. Since that date prices have been so abnormally high and the difficulties of financing so great that the Company has not been able to obtain the money to continue the work.

In the year 1918 the Elizabethtown Water Company agreed with the Plainfield-Union Water Company and the Middlesex Water Company supplying water in 19 municipalities in the counties of Union, Middlesex and Somerset, not including those supplied by the Elizabethtown Water Company, to proceed jointly to acquire an additional supply of water for the future.

Mr. Morris R. Sherrerd, of Newark, engineer of the water works of that city, and also engineer of North Jersey District Water Supply Commission, and Mr. Allen Hazen, of New York, an eminent hydraulic engineer, were employed by the companies to examine the entire situation and advise what should be done by the companies to obtain more water. After an elaborate investigation those engineers recommended that an additional supply be obtained from the Millstone and Raritan Rivers in Somerset County, at a point where they join, about three miles southwest of Bound Brook, instead of at a point above Somerville. Thereupon the companies purchased about two hundred acres of land where the rivers join, and a right of way for conduit from that point to the westerly terminus of the 36-inch main near Bound Brook. The companies also purchased a tract of land for a reservoir on a hill near Oak Tree, south of the City of Plainfield. Plans for developing the supply from said rivers were prepared by said engineers and submitted to the Board of Conservation and Development for approval in the autumn of 1918, and after hearing were approved by said Board, and their order approving the same has been affirmed by the Supreme Court and Court of Errors of this State.

The estimated cost of carrying out the plans is about three million dollars—two million dollars for the actual development of the new source of supply, and one million dollars for extending and reinforcing the mains of the companies to facilitate distribution. It was found, however, to be impossible for the said water companies to obtain the capital to proceed with the work on account

of the enormous increase in operating expenses, taxes and loss of credit of utility corporations.

The companies have had conferences with the representatives of the municipalities, and have made various propositions for the development of this plan, all of which were attempts to solve the problem of securing the necessary capital. These conferences are still in progress.

7. It is impossible for the Elizabethtown Water Company to develop additional sources of supply with additional net revenue. Without an increase in rates it will be impossible for the Company to induce the investment of capital in the business and its continuance therein.

The investor makes the following requirements: Security of principal, certainty of income, fair rate of return on his investment. Before new capital can be induced to invest, it must be clear that the capital already tied up in the enterprise is able to receive a fair and certain income. Three per cent. return on the fair value of the investment is utterly inadequate to meet these requirements of the investing public. The Company must not only earn the interest requirements of any new borrowings, but a surplus as well.

The present earnings of $120,000 per year are not sufficient to finance the immediate capital expenditures, let alone the requirements for the three million dollar future improvement of the water supply above described.

The Company has found it difficult to meet these financial problems. Such inducements have been offered to capital to make investments in other enterprises that it has not looked upon public utilities in New Jersey as an attractive field for investment. This has been intensified by the public protest against any increases in rates to public utilities to meet increases in costs and the tremendous additional taxes which have been laid upon these utilities enhancing the risk of capital invested therein, so that capital is inclined to demand a higher return as a measure of that risk.

The first step necessary is that the Company should receive a fair, adequate and sufficient return for the service which it is rendering, and when this is secured it will be in a position to take the next step.

8. On May 1, 1919, a mortgage securing bonds to the amount of $500,000 on the property of the Elizabethtown Water Company matured.

The Company has been unable to refund these bonds since that time on any basis except an extremely unfavorable one, and has also considered it unwise to place a mortgage for this amount upon its properties, thus precluding the possibility of its placing a larger mortgage upon them if it could obtain reasonable terms. It has also contracted a floating debt of $145,000 for capital expenditures, such as extending mains and installing service pipes and meters. This sum also cannot be refunded at the present time, either by the sale of stocks or bonds of the Company with its present income, on any basis which would permit the Company to perform its function in the future.

The Company is rapidly approaching the limit of its borrowing capacity, for no matter what terms it is willing to pay or how great the surplus of the Company may be, no financial institution is at present willing to loan money for an indefinite period without the assurance of its being paid off in the near future. With an increase in income, the Company believes that it will be able to finance the issuance of securities necessary to cover these matters and other necessary capital improvements, although an additional increase in rates may be necessary after completion thereof to carry it along.

The Company has been compelled to reduce its dividends. This is unfortunate, as it lessens the confidence of those who already have their funds in this enterprise and deters other New Jersey investors who might furnish it additional capital from doing so. It has been found from past experience that the only market for stock and securities of companies of this character con-

sists of those who already hold its stock or securities and a small number of New Jersey investors, and with their confidence impaired, any attempt to secure additional capital becomes increasingly difficult.

If all this Company's earnings were used for capital additions and improvements and no dividend declared, it would not only adversely affect its ability to acquire new capital, but would not be sufficient to assist it to perform its duty of providing for the future growth and needs of the community.

With total earnings for the year 1920 of $120,621.17 and amortization of $36,977.19, the Company was compelled to expend nearly $40,000 for mains and accessories to meet the normal growth of the territory, and replace obsolete mains, about the same sum for service pipes and $2,000 on general equipment. It also spent over $20,000 on meters or about $102,000 on current additions to capital. In 1920 the Company also completed a filter plant, which required a capital expenditure of over $95,000, the cost of this had, however, been charged over a period of several years as the work progressed.

With the exception of this filter plant, none of these expenditures were for any large project, but were all merely capital expenditures required in the due course of business. In the year 1919 the Company expended approximately the same sum for the same purposes, and it will probably be required to spend about the same amount of money for the same purposes during the year 1921. Unless the Company is in a position where it can capitalize these expenditures, it cannot continue to function indefinitely.

9. This Company, in order to conserve its supply of water, has been metering its system as rapidly as it is able and with due regard to the financial problems confronting it. When this Board made its order on June 8, 1920, directing the Company to install on or before December 31, 1920, meters for all industrial customers and an additional 5,000 meters for residences, and over

5,000 additional meters by November 1, 1921, the Company was unable to carry out this order. The Company had, at the hearing, given evidence through its witnesses, which in its judgment proved that the order made by the Commission was unreasonable and outside of its jurisdiction. The Company procured a writ of certiorari to test the validity of this order of the Board, in pursuance of the rights conferred upon the Company by statute. In procuring this writ the Company acted in good faith, and because it believed that the order made by the Board was not supported by the evidence and was without the jurisdiction of the Board. This action of the Company in asking for a court review of this order in accordance with its legal rights was not intended to be obstructive, but was merely in pursuance of that due process of law which is guaranteed to the Company by the Constitution. The Company has installed meters as rapidly as it could during the past year, in view of its financial circumstances and the many other demands upon it for expenditures. The Company has installed 1,800 meters since January 1, 1920, and has made arrangements to install some 2,000 meters in the immediate future.

10. The Company protests that the Board has no legal power to refuse it a hearing, because it exercised its constitutional right to procure a court review of an order of the Board which it regards as unreasonable, unjust, not supported reasonably by the evidence taken before the Board, and outside of the jurisdiction of the Board. Such action by the Board would be an effort arbitrarily to deprive the Company of its right to a judicial review, and if within the powers conferred upon the Board by the statute, would render the statute unconstitutional.

11. The Company also protests that the Board has no right to regard the language in the opinion of the Board, which was made the basis of the order of June 8, 1920, as a conclusive adjudication with reference to the service which the Company is rendering. The Company has rendered adequate and proper service, and the

rate which it has filed March 1, 1921, does not exceed the fair value of the service rendered by it.

12. The Company respectfully petitions the Board to reconsider all of the problems of its service, in so far as the same are incidental to the petition which the Company has now pending before the Board for it to exercise its duty and fix a fair, reasonable and sufficient rate to enable the Company not merely to procure a fair return on the fair value of the capital now invested in the business, but to induce capital to flow into the business to finance its future requirements.

13. In conclusion, as manager of this Company and responsible for its operation, I urge upon the Board the seriousness of the present situation, the fact that this Company has done and is doing all in its power to improve its service, to secure additional capital, and the serious difficulties with which it is confronted, as well as the serious consequences which will result in case it is impossible to procure capital to make the necessary extensions of its plant. Without additional revenue, the procuring of such capital will be impossible.

JOHN W. WHELAN.

Sworn to before me this 4th day of June, 1921.

FREDERICK E. BAKER,
Supreme Court Commissioner of New Jersey.

THE BOARD OF PUBLIC UTILITY COMMISSIONERS,
STATE OF NEW JERSEY.

ELIZABETHTOWN WATER COMPANY
ET AL., IN RE INCREASED RATES.

STATE OF NEW YORK,
COUNTY OF NEW YORK, } *ss.*

Lawrence Chamberlain, being duly sworn, says:

I am an investment banker engaged in business at 115 Broadway, New York City, and am President of Law-

rence Chamberlain & Co., Inc., and have been engaged in the investment banking business since 1906, and have been familiar with the conditions of that business since that time until to-day, and in touch with the facts relating to the requirements of the investing public.

In addition to my business I have made a study of the principles of investment banking and am author of "The Principles of Bond Investment," published by Henry Holt & Company, which is generally used as a text book in the Economic Department of Universities in America.

In general, the investing public, before making any investment, must be satisfied with regard to the security of the principal, the certainty of the income, and the market ability of the security offered to it. The rate of interest which has to be paid to the investor in order to induce him to make the investment depends upon these three factors. It also depends on the relative amounts of capital available for and awaiting investment and of the demand by States, municipalities and corporations for that capital.

On October 15, 1920, I testified, as a financial expert witness, in the Supreme Court of New Jersey, in the Elizabethtown Water Company against the Board of Public Utility Commissioners. A copy of my testimony in that case is hereto annexed. The situation, as set out by that testimony, was true as of that date. To-day it is even more difficult to obtain capital for any utility enterprise, the reasons being as follows: Since last October there has been a great business depression, with many of our most prominent corporations showing greatly reduced or no earnings, and with an extraordinarily large number of corporations passing or reducing their dividends. The falling off in earnings and the wisely concerted efforts on the part of the banks to liquidate inventories carried by American domestic corporations at high prices, has required them to go into the open market for investment capital to fund the current loans that they have been carrying at the banks. Furthermore, the de-

mand for capital from foreign countries in aid of the solution of their own financial problems is now much greater than last fall.

It will not be impossible for the Elizabethtown Water Company to contract for new capital provided the investing public could be assured of the safety of the securities the Company might issue, the certainty of income from them and the rate of return on the investment was attractive. In order to accomplish this it is absolutely essential that the investing public should be assured that the investment already made will be protected by the State and allowed to earn a fair return on the fair value of the properties as of to-day, devoted to the public service. The measure of such return can be tested by ascertaining the return that could be obtained by the investment in the market of a sum equal to the fair value of the properties, in an enterprise of no greater risk. There would be no difficulty in investing at eight per cent. such a sum in Foreign Government Bonds, which to the public mind would present much less risk.

If the Elizabethtown Water Company, require to raise $3,000,000 of new money for capital investment, it could raise it on most advantageous terms by a First Mortgage Issue, and if it could not offer a First Mortgage Issue it would be necessary to modify the statement herein contained. In order to sell $3,000,00 of First Mortgage Bonds of the Elizabethtown Water Company the investing public, in my opinion, would require that there should be at least an equity behind these bonds, represented by stocks or junior securities, of at least 40 per cent.—that is the bonds should not be over 60 per cent. of the total value of the property secured. The rate of interest should be at least 8 per cent. and the net earnings of the corporation should exceed the interest requirements by at least 100 per cent.—that is the Company must earn at least twice the interest requirements of the bonds. In addition to the return the investor may receive regularly, the Company should be allowed such earnings as will permit the setting aside of at least one

per cent. per annum on the investment shown by the fair value of the property as a reserve for contingencies.

LAWRENCE CHAMBERLAIN.

Sworn to before me this 3d day of June, 1921.

G. E. HART,
Notary.

Notary Public, Kings Co., No. 36.
Kings County Register's No. 2032.
Certificate Filed in New York County No. 80. *New York County Register's No.* 2047.

[County Clerk's Certificate Attached.]

NEW JERSEY SUPREME COURT.

THE ELIZABETHTOWN WATER COMPANY,
Prosecutor,
vs.
BOARD OF PUBLIC UTILITY COMMISSIONERS,
Defendant.
} On Certiorari.

AFFIDAVIT ON RULE.

Taken October 15, 1920, before Frederick E. Baker, Supreme Court Examiner.

Lawrence Chamberlain, called on the part of the prosecutor, being duly sworn according to law, testified as follows:

Direct examination, by Mr. Bergen.

Q. Where do you reside?

A. In Greenwich, Connecticut.

Q. What is your business?

A. Investment banker.

Q. Where are you located?

A. At 115 Broadway, New York.

Q. How long have you been engaged in that business?

A. Since 1906.

Q. Continuously?

A. Continuously.

Q. In New York?

A. From 1908 in New York. Two years before I began in Boston.

Q. You are the head of the firm, are you?

A. Yes. The firm is the same name.

Q. What lines of securities do you deal in—all lines?

A. We deal in all lines, but more particularly in municipal securities and industrials; not so much in miscellaneous lines.

Q. Are you familiar with the market for stocks and bonds of utility corporations?

A. I think I am familiar with it, yes.

Q. Have you written and published any works on bond investments?

A. I have written two works. The principal one is called the "Principles of Bond Investment," published by Henry Holt & Company in 1911. The other one is entitled, "The Work of the Bond House," published by the Moody Magazine Publishing Company. That is a small book designed to teach the young bond salesman the business of selling. The other is a standard text of about 600 pages.

Q. Have you testified as a financial expert in cases occasionally?

A. Yes, sir; the first time I think was before the Interstate Commerce Commission in what is called the Five Per Cent. Railway Rate Cases, which came off in the fall of 1914. I had charge of the preparation of the bankers' part of the case. And occasionally since that time I have testified. I testified before the Public Service Commission of New Jersey on the Hackensack Water Company case; that was, I judge, about two years ago, and I have since that time, probably eighteen months ago, testified before the Public Service Commission of Massachusetts in connection with the Old Colony Street Railway case.

Q. Are you familiar with the financial status of the Elizabethtown Water Company?

A. So far as it is contained in the balance sheets and earnings statements that have been presented to me in connection with an invitation that our house received to make an offer for securities of the company.

Q. Did the company ask you to purchase bonds or stock for the purpose of raising money to complete the equipment of its plant with meters?

A. It did.

Q. About how long ago was that?

A. On September 27th, 1920.

Q. Have you a copy of the company's application to you?

A. I have the letter—the original letter.

(Offered in evidence and marked *Prosecutor No. 1;* following is a copy.)

THE ELIZABETHTOWN WATER COMPANY,
ELIZABETH, N. J.
27th September, 1920.

Mr. Lawrence Chamberlain,
c/o Messrs. Lawrence Chamberlain & Co.,
31 Nassau St., New York City.

MY DEAR SIR:

The Board of Public Utility Commissioners of this State made an order last June directing the Elizabeth-

town Water Company to install meters on or before the 31st of December next on all of its industrial consumers and at least 5,000 domestic consumers, who are not now supplied through meters, and between December 21st next and November 1st, 1921, to install meters on all other consumers of the company.

The company's works are located, and it is now operating in the following towns: City of Elizabeth, Townships of Hillside, Union, Clark and Linden, and also in the Borough of Linden, in the County of Union. The company has about 17,000 taps, of which about 4,000 are metered.

The company would be glad to comply with the order of the Board if it could raise the money to pay the cost, which would amount to approximately $300,000. There is a mortgage on the property of the company which authorized bonds to the amount of $500,000. It came due in May, 1918. The bonds have not yet been refunded, but extended for a short time. The company pays dividends of ten per cent. on its capital stock, the amount of which is $1,000,000. Its floating debt is $195,000.

The company would like to make an issue of bonds secured by mortgage on all its property so as to obtain the sum of $1,000,000 for the purpose of installing meters, refunding the bonds now due and paying its floating debt. It is permitted to sell bonds at not less than 80. If the bonds cannot be sold, the company would be glad to make an issue of stock sufficient to raise the money to install the meters, to refund the bonds now overdue and to pay the floating debt or to sell bonds or stock sufficient to raise the money to install meters without refunding the overdue bonds or floating debt.

The company would be glad to have you make an offer for the stock or bonds proposed to be issued as stated above. Further particulars as to the property and financial status of the company will be furnished

and replies made to any inquiries that you may wish to make.

Very truly yours,
THE ELIZABETHTOWN WATER COMPANY,
By J. H. KEAN,
President.

Q. Did you purchase the securities offered by the company, or any of them, in that letter?

A. We declined.

Q. What were your reasons for declining to purchase those securities?

A. Our reasons are contained in our declination written on October 5, 1920, which reads as follows:

"*Mr. J. H. Kean, President, Elizabeth, N. J.*

MY DEAR SIR:

With reference to your invitation of September 28th to make an offer for a security issue of your company, we regret to say after mature deliberation we do not desire to participate in the flotation of a public utility issue under present conditions.

The failure of public utility commissions to give prompt recognition to the revolutionary change in price levels and to the high return obtainable on capital has resulted in serious losses to investors in the public utility field and general demoralization and loss of confidence. With industrial securities generally offered on an 8 per cent. basis by companies of established standing we do not believe that it would be advisable at the present time for us to undertake the financing that you propose.

Very truly yours,
LAWRENCE CHAMBERLAIN & CO., INC."

Q. Do you think it is possible for the company to sell bonds at 80, or stock at par, for the purpose of raising the money that the company desires to obtain, as stated in this letter, Prosecutor No. 1?

A. With reference to the bonds it would depend on what interest rate they carried.

Q. Suppose the interest rate to be six per cent. and that they could not be sold for less than 80?

A. I believe that the bonds could not be sold on those terms.

Q. What can you say in respect to the stock?

A. Capital stock could be sold to the public at par if it paid a sufficiently high dividend and was preferred to the common stock of the company as to assets and earnings; but the company could not sell capital stock to the dealer at anywhere near par, because I doubt very much whether in this market, no matter what the dividend rate is, the public would pay more than par for any preferred stock.

Q. Have you examined the balance sheets of the company for the past few years?

A. Yes, sir.

Q. You are speaking now of the Elizabethtown Water Company?

A. Yes, sir.

Q. And is your opinion as to its capacity to borrow money based to some extent upon that statement?

A. It is.

Q. Did you notice whether the net income of the company has increased during the past few years, or whether it has decreased?

A. I noticed that it has steadily decreased each year.

Q. Operating expenses have been increasing?

A. Yes.

Q. What interest rates are being obtained now upon first-class securities as offered for sale in the money markets?

A. The public is able to obtain what I consider to be first-class securities of many sorts, both here and abroad, at a price to yield a return of eight per cent. on the investment.

Q. By "public" you mean investors?

A. Yes, investors.

Q. Do you remember any recent offerings of securities regarded as perfectly safe, and their interest rates?

A. I do. The Belgian government offered fifty million dollars of securities recently at a price to yield the investor from 7.95 per cent. to 24.89 per cent. depending on when they were redeemed. The French Republic offered one hundred million twenty-year eight per cent. bonds at par.

Q. Refer to some offerings and sales of securities recently in this country, regarded as perfectly secure.

A. Armour & Company have recently offered $60,000,000 of convertible gold notes, which I should consider absolutely safe, humanly speaking, at a price to net seven and three-quarters per cent.; but it is only fair to state that the convertible features made them more valuable than they would be as a pure investment; they had a speculative addition.

Morris & Company have recently issued $15,000,000 of notes—ten-year notes—to yield seven and three-quarters per cent.

I understand that Swift & Company have recently issued notes at about the same rate of interest.

The Utica Gas and Electric Company have recently issued $1,700,000 of bonds, at a price to yield eight per cent.

The Pacific Power and Light Company has issued a million dollars of bonds, to yield eight and a quarter per cent.

The Kingdom of Norway has issued $20,000,000 of bonds to yield eight per cent.

The Government of Switzerland has issued twenty-five million dollars of twenty-year bonds, at par, yielding 9¼ per cent.

All of these issues have been offered since the 1st of June, 1920.

Q. I suppose it is true that similar issues of securities by other parties have been offered on substantially the same terms in recent months?

A. I have no doubt that there are many others that could be cited in illustration.

Q. Did you hear the testimony given this morning by Mr. John W. Whelan as to the financial condition of the Elizabethtown Water Company?

A. Yes, sir; I heard him testify.

Q. That is all.

LAWRENCE CHAMBERLAIN.

THE BOARD OF PUBLIC UTILITY COMMISSIONERS, STATE OF NEW JERSEY.

THE ELIZABETHTOWN WATER COMPANY ET AL., IN RE INCREASED RATES.

STATE OF NEW YORK, CITY AND COUNTY OF NEW YORK, *ss.*

I am Consulting Hydraulic and Sanitary Engineer, residing at 116 East 63d Street, New York City, and with offices at 112 East 19th Street, New York City.

I am a graduate of the Stevens Institute of Technology, Class of 1892, and have been in practice as a Consulting Engineer since 1898, specializing in the last twenty years in hydraulics and sanitary work.

I have made valuations of some fifty water works properties situated in various parts of the United States, as well as of other public utility properties, including railroads, street railways, electric light plants and gas works. Of the fifty appraisals of water plants which I have made, I was employed by the municipality in approximately fifteen cases, by the water company in approximately twenty cases, and by financial institutions in approximately fifteen cases. Of the fifty appraisals of water works properties made, fifteen were for the purpose of establishing fair rates, twenty-five for the pur-

pose of purchase and sale, and ten with a view to advising financial institutions with regard to proper capitalization, probable earnings, operating expenses, etc.

I have been actively engaged in the management of water works properties as Chief Engineer of the Water Department of Baltimore, Md., Chief Engineer of the Water Department of the City of New York, President of the East Orange Water Department, President of the Consolidated Water Company of Suburban New York, etc.

I have been engaged by a number of municipalities and water companies in various parts of the United States as consulting engineer to advise them with regard to problems of management, design and construction of extensions, improvements and enlargements of plant, including the design and supervision of reservoirs, dams, filter plants, pumping stations, distribution systems, etc., Among the cities by which I have been retained may be mentioned:

Allentown, Pennsylvania.
Baltimore, Maryland.
Binghampton, New York.
Charleston, South Carolina.
Dallas, Texas.
Fort Wayne, Indiana.
Jersey City, New Jersey.
New Orleans, Louisiana.
New York City, New York.
Norfolk, Virginia.
Norwich, Connecticut.
Portland, Maine.
Troy, New York.
Utica, New York.

In connection with my work of design and construction I have been required to prepare estimates of cost of all elements of water works construction, to secure bids and to let contracts for the same, and in connection with my appraisals I have had access to the books of various water works companies and have maintained

records of the actual prices paid for various classes of labor and materials covering a period of twenty years past.

I am a member of:

The American Institute of Consulting Engineers,
The American Society of Civil Engineers,
The American Society of Mechanical Engineers,
Past President of the American Water Works Association,
The New England Water Works Association, and other technical societies.

I have made inventories of the property and plant of The Elizabethtown Water Company and its allied companies, the Piscataway Water Company, Raritan Township Water Company, and the Watchung Water Company, and have prepared an appraisal of these properties based upon the inventories so made. As a result of the appraisal based upon the inventories, I find the fair value of the properties as of January 1, 1921, to be as follows:

The Elizabethtown Water Company,	$4,080,000
Piscataway Water Company,	750,000
Raritan Township Water Company,	250,000
Watchung Water Company,	270,000
Total all companies,	$5,350,000

I have also prepared summaries of the revenues and expenses of these water companies for the years 1914 to 1920, inclusive, such summaries having been obtained directly from the books of the companies. I have also prepared estimates of the revenues required in order to enable the Company to continue its present service and provide for the future requirements of the service. I find that the actual revenue received by these companies in 1920 and that required to produce a fair return of 8 per cent. on the fair value of the properties are as follows:

	Revenue Received	*Revenue Required*	*Ratio*
The Elizabethtown Water Company,	$591,138	$955,605	1.62
Piiscataway Water Company,	44,542	135,680	3.04
Raritan Township Water Company,	8,121	35,569	4.38
Watchung Water Company,	41,560	67,650	1.63
Total all companies,	$685,361	$1,194,504	1.74

I find as shown above that in order to provide for operating expenses, taxes, and a proper reserve for depreciation, and to pay a fair return on the fair value of the property, the gross revenue of The Elizabethtown Water Company must be increased 62 per cent., of the Piscataway Water Company 304 per cent., of the Raritan Township Water Company 438 per cent., of the Watchung Water Company 63 per cent., and the total revenues for all companies must be increased 74 per cent. Of the total revenue of the Piscataway Water Company, Raritan Township Water Company and the Watchung Water Company necessary to pay a fair return on the fair value of these properties $182,382 must be derived from The Elizabethtown Water Company for water transported and furnished to The Elizabethtown Water Company by these companies. The Elizabethtown Water Company must, therefore, earn $182,382 in addition to the $955,605 necessary to pay a fair return on the fair value of its local property, or a total of $1,137,987 per year. One million one hundred and thirty-seven thousand nine hundred and eighty-seven dollars ($1,137,987) represents an increase of 77 per cent. above present gross income of The Elizabethtown Water Company. A summary of the fair value and gross earnings of the constituent properties is shown on the attached Table No. 1.

The gross revenues given are the gross revenues required to pay a fair return on the fair value of the existing plant. Nothing has been included in the rate base, which has been taken as the fair value of the existing plant, for needed extensions and improvements of plant, but it is a fact that The Elizabethtown Water Company is face to face with the necessity of providing enlarged and adequate sources of supply, which will involve the issuance of new securities to defray the cost of the improvements, and I have recognized that in order to dispose of these securities at a reasonable price the Company must at least show that it is able to earn a fair return on the fair value of the existing plant.

TABLE NO. 1

SUMMARY OF FAIR VALUE AND GROSS EARNINGS BASED ON FAIR RATES
THE ELIZABETHTOWN WATER COMPANY, PISCATAWAY WATER COMPANY, RARITAN TOWNSHIP WATER COMPANY AND WATCHUNG WATER COMPANY

Item	*The Elizabethtown Water Company*	*Piscataway Water Company*	*Raritan Township Water Company*	*Watchung Water Company*	*Total*
(1)	(2)	(3)	(4)	(5)	(6)
Fair Value of Property and Plant as of January 1, 1921,	$4,080,000	$750,000	$250,000	$270,000	$5,350,000
Operating Expenses (1920):					
Payments to Affiliated Water Companies for Water Furnished and Transported:					
Piscataway Water Company,	131,192	0	162	0	131,354
Raritan Township Water Company,	35,000	0	0	0	35,000
Watchung Water Company,	16,190	0	0	0	16,190
Total,	$182,382	0	$162	0	$182,544
Other Operating Expenses,	361,573	$23,385	56	$26,151	411,165
Total,	$543,955	$23,385	$218	$26,151	$593,709
Taxes,	214,562	41,059	12,338	16,379	284,338
Reserve for Depreciation,	53,070	11,236	3,175	3,520	71,001
Fair Net Return of 8 per cent.,	326,400	60,000	20,000	21,600	428,000
Total Gross Income Required from all Sources, 1920,	$1,137,987	$135,680	$35,731	$67,650	$1,377,048
Deduct Payments Received from Affiliated Companies,	0	131,354	35,000	16,190	182,544
Gross Income Required from Sources other than Affiliated Companies, 1920,	$1,137,987	$4,326	$731	$51,460	$1,194,504

In preparing the estimates of the value of these properties as a whole and the gross income required covering net return, operating expenses, taxes, depreciation and water purchased. I have treated them in the same identical manner in which I would treat a municipally owned water works plant were I called upon to prepare similar data for it. A privately owned and municipally owned water works plant must be governed by the same economic principles. By that I mean to say, whether a plant is publicly or privately owned, it is necessary in order for that plant to give service that the revenues should equal the cost of the service of the plant, that is, that the revenues should be sufficient to pay interest and sinking fund charges in the case of the municipal plant, or its equivalent, a fair return and depreciation reserve in the case of the privately owned plant, plus operating expenses and taxes. This is a basic principle and cannot be contraverted, and every charge which is made for water is based on this fundamental principle, that the revenue must equal the expenses.

It may be, of course, that in a municipal plant all of the money is not taken from one pocket, that is, from the water rates. Some of the revenues may come from water rates and some from general taxation, but under a properly devised system of charges for a private water company some of the revenues should come from the water rates and some from taxation, and the amount which should come from the water rates and the amount which should come from taxation should be identically the same in a gven location whether the plant is municipally or privately owned.

I have also considered that the function of a water utility, whether publicly or privately owned, is not alone to maintain an adequate and ample supply of pure and wholesome water to meet the immediate needs of the community served, but it is as much its function to anticipate the needs of the community served, to watch the trend of consumption, to anticipate when it will be necessary to make exten-

sions and improvements of plant, and to provide the capital necessary to make such extensions and improvements when they are required. The revenues from the plant, whether publicly or privately owned, must, therefore, be sufficient not only to pay interest and provide for a proper sinking fund or depreciation reserve on the investment in existing plant, together with necessary operating expenses and taxes, but also to secure the funds for extensions, enlargements and improvements. The municipality may pledge its credit to secure the return on the new capital required for extensions and improvements to a municipal plant, and if the water rates are not sufficient may raise the necessary interest and sinking fund payments arbitrarily by taxation. In the case of a private water company this is not possible, and the water rates must provide for all new capital required, but it makes no difference whether the plant is publicly or privately owned or whether the revenues are provided by taxation or from the water rates, revenues must be provided to attract new capital. In either case the capital required to finance needed improvements must be secured in advance of the improvements and the revenues, whether obtained from the water rates or by taxation, must be secured in advance of capital issues in order to guarantee a reasonable return on the securities issued for improvements or else the investor will not invest in them.

NICHOLAS S. HILL, JR.

June 3, 1921.

STATE OF NEW YORK,
COUNTY OF NEW YORK, } *ss.*

Subscribed and sworn to before me this 4th day of June, 1921.

HORACE T. PATTON,
[L. S.] *Notary Public.*
Notary Public, Kings Co., No. 141,
Certf. filed in N. Y. Co., No. 10.
Term Expires March 30, 1923.

Form 2.
No. 59537, Series B.

STATE OF NEW YORK, }
COUNTY OF NEW YORK, } *ss.*

I, William F. Schneider, Clerk of the County of New York, and also Clerk of the Supreme Court in and for said county,

Do Hereby Certify, That said Court is a Court of Record, having by law a seal; that Horace T. Patton, whose name is subscribed to the annexed certificate or proof of acknowledgment of the annexed instrument, was at the time of taking the same a Notary Public acting in and for said county, duly commissioned and sworn, and qualified to act as such; that he has filed in the Clerk's Office of the County of New York a certified copy of his appointment and qualification as Notary Public for the County of Kings with his autograph signature; that as such Notary Public he was duly authorized by the laws of the State of New York to protest notes; to take and certify depositions; to administer oaths and affirmations; to take affidavits and certify the acknowledgment and proof of deeds and other written instruments for lands, tenements and hereditaments, to be read in evidence or recorded in this State; and further, that I am well acquainted with the handwriting of such Notary Public and verily believe that his signature to such proof or acknowledgment is genuine.

In Testimony Whereof, I have hereunto set my hand and affixed the seal of said Court at the City of New York, in the County of New York, this 6th day of June, 1921.

W. F. SCHNEIDER,
Clerk.

[L. S.]

BOARD OF PUBLIC UTILITY COMMISSIONERS,
NEWARK, N. J., Monday September 19th, 1921.

In the Matter of the Application of Elizabethtown Water Company, Watchung Water Company, Piscataway Water Company, and Raritan Township Water Company, Increased Rates.

Before Commissioner Harry V. Osborne, Esq.
P. Betts, Esq., Inspector.
J. P. Petty, Esq.
For the Petitioners appears:
W. M. Wherry, Esq.
For City of Elizabeth appears:
Joseph T. Hague, Esq.
For Union Township appears:
John K. English, Esq.
For Dunellen and Piscataway Township appears:
R. P. F. Von Minden, Esq.

Commissioner Osborne—The only matter on the calendar this morning is the application of the Elizabethtown Water Company, Piscataway Water Company, Watchung Water Company and Raritan Township Water Company, for an increase in rates. Are the parties ready?

Mr. Wherry—We are ready.

Commissioner Osborne—Is there anyone appearing in opposition?

Mr. English—I appear for Union Township, and I expect Mr. Hague here for Elizabeth.

Commissioner Osborne—Do you oppose this application?

Mr. English—I do, yes, sir. Has any decision been rendered on the point raised at the last hearing as to the status of the petitioners?

Commissioner Osborne—Is this the case that went over because some work had not been done?

Mr. English—Because the meters had not been installed, and we were to present briefs, but I think there was no decision on that point.

Commissioner Osborne—There has been no formal decision.

Mr. English—If that is decided adversely to the petitioners, I suppose there will be no further proceeding?

Commissioner Osborne—I have copies of two opinions in the Supreme Court which I see have been marked "February Term, 1921." Were they handed down when this case came up before?

Mr. Wherry—No; we were waiting for a decision with regard to the propriety of the order of the preceding Commission. But the order was vacated and—

Commissioner Osborne—In view of these Supreme Court decisions, it does not seem to be a matter that presents any great difficulty, and I see nothing to do but go on with the case. They seem to settle the question. They say if the company is not able to do this work—they "cannot make bricks without straw."

Mr. English—Wherein was the status changed since the last hearing?

Commissioner Osborne—I do not know, except that these opinions have been rendered by the Supreme Court, and that seems to me to clarify the situation so far as this case is concerned, although it does not help clarify the law generally, because we have other decisions which seem to be contrary, but this is the law of this case. Whether it is the law of the State or not is another question.

Mr. English—And in view of those opinions the Board will decide adversely on this point?

Commissioner Osborne—We will hear this case anyway.

Mr. Wherry—I will state to the Board that the company is going ahead with this matter—they are con-

fronted with this sort of a situation all the time; the application for the extension that requires financing. They have other things that come in that require financing, and they have only got a limited amount of money to do it with, and one reason that this rate application was pressing is that we have this financing to do and we cannot do it, because it is not merely a question of a few hundred thousand dollars involved in the meters, but this five hundred thousand of bonds that have matured that have got to be refunded, and you cannot get capital and come in here until the rate is fixed, and it is evident that if the company is going to be able to pay the interest —that was stated in my affidavit that I filed as part of the record.

Commissioner Osborne—Will you let me ask a question before you go on?

Mr. Wherry—Certainly.

Commissioner Osborne—These meters were directed to be installed by a certain time, weren't they?

Mr. Wherry—Yes, sir. We have also said that the meters should be installed and it was a question of financing it.

Commissioner Osborne—The time is measured by your ability.

Mr. Wherry—Yes, sir. Now, they have ordered two thousand meters—

Commissioner Osborne—How many customers have you?

Mr. Wherry—Sixteen thousand in Elizabeth.

Commissioner Osborne—How many have they metered?

Mr. Wherry—It is considerably over a third. It is fifty-five hundred, and they have two thousand more under way now.

Commissioner Osborne—What do those meters cost apiece?

Mr. Wherry—For the installation?

Commissioner Osborne—Either way.

Mr. Wherry—About twenty dollars apiece installed.

Commissioner Osborne—Your application now relates to rates, and you want an increase in rates?

Mr. Wherry—Yes.

Commissioner Osborne—What is the objection to this increase in rates, if it is found to be necessary to give you the service?

Mr. English—That is a matter of truth, and if the Board decides in its wisdom it it necessary in order to get water that they must have a rate—

Commissioner Osborne—Then there is no question of service involved? You are not complaining of service?

Mr. English—My difficulty is this, that I am the attorney for Union Township on a legal question. I filed a brief, and Elizabeth, so far as the facts are concerned, is represented by its own city attorney. I apprehend that with regard to Elizabeth there will be considerable complaint regarding service, but I do not think there will so far as my client, Union Township, is concerned.

Commissioner Osborne—Elizabeth is not represented here.

Mr. English—Elizabeth is represented on the record, and I understand the city attorney will be here. He told me so Saturday.

Mr. Wherry—I will state that we are not satisfied with the service. That is one reason for making the affidavit, because we want to better the service. In the first place we want to get these meters, and there are some extensions we want to take care of, and there is the additional source of supply which has been a pressing question here for years, and even this hearing is not going to be but one step in the solution of that case. What I want to bring out is that this is a step, as far as the company is concerned, in improving its service, because it cannot finance the improvement that is necessary and keep the capital flowing into this company without being able to take care of not only the increased

cost of operation, but of a reasonable return on that capital.

Commissioner Osborne—In addition to this meter question, what are the improvements that the company contemplates that it will be necessary to make—certain extensions into territory not now supplied?

Mr. Wherry—That is really territory that is contiguous.

Commissioner Osborne—That is the present mains have to be enlarged to take care of that—

Mr. Wherry—What addition we anticipate is coming. Now when we first wanted to file this increase, there was no opportunity to hear us. The company has got to anticipate, as far as it can, a profit more or less based upon facts that come to it, the increase in its demand, and if the territory suddenly begins to grow, it has got to be ready to take care of it. During this year there has been an industrial depression, and we have not had the complaints regarding the pressures that we had before when there were breweries there. In that brewery district there has been a lessening of demands, and the situation is this, there is this great increased cost. It could not adjust its rates to that cost without having a valuation of the plant, so it delayed making any change in its rates until it got this valuation made. Then it filed its increase and there was no Board to hear it. We stated when we filed it we were going to delay it and give the Board and the public ample time to be heard, and we have not been able to present it yet.

Commissioner Osborne—You may call your witness. What is the base rate?

Mr. Wherry—Before I call the witness, may I just recall to you that in my opening statement I called attention to the fact there were four companies here. The Piscataway and Raritan Companies, the only increase that is asked for is the charge to the Elizabethtown Company to cover their costs. They supply the Elizabethtown Company with water. The Watchung Company also supplies some public consumers and

there we are asking for an increase not only in the charge to Elizabethtown, but to other consumers, and there is really no question of service there, and we are asking to divide the charge in the same proportion as between them. That is, there is a certain increase needed to meet the situation, and we are asking for a uniform twenty per cent. We divide that equally between it and other consumers of Elizabethtown. Elizabethtown is the distributing company, and it has its own source of supply in addition. It purchases from the Middlesex Company, which has been before this Board and gotten an increase in the charge to Elizabethtown, which has never been taken care of by a charge by Elizabethtown to its customers.

Commissioner Osborne—And it buys from Newark, does it? I notice in these papers that it has twelve sources of supply.

Mr. Wherry—I will develop all that through your witnesses. In order to make clear to you how I was going to present the case, I thought I would present the entire situation through the witnesses who know it and present the Elizabethtown valuation first as we go along.

Commissioner Osborne—Do the same people own the Raritan and Watchung and Elizabeth—do the same interests control them?

Mr. Wherry—It is practically a consolidation through stockholdings.

Commissioner Osborne—These four companies?

Mr. Wherry—Yes. They would have been consolidated under the statute if it had not been for various things that developed and the additional cost or expense in making a consolidation.

Commissioner Osborne—You expect that ultimately they will be consolidated?

Mr. Wherry—They will have to consolidate, in my judgment. They have already been treated exactly as if it had been consolidated, and if there were any savings that would be accomplished through consolidation

we can take that into account, and any additional costs also.

Commissioner Osborne—Mr. Hague, in an effort to clarify the situation and get to the real issue as quickly as possible, before you came in I asked the municipalities whether they had any objection to this rate increase, whether there was any question of service involved?

Mr. Hague—Do you mean the service rendered?

Commissioner Osborne—Yes.

Mr. Hague—So far as I know the last time I heard anything about that the service was no better than it had been previously, at the time the company admitted they were not furnishing adequate service.

Commissioner Osborne—In what respect?

Mr. Hague—Pressure. They could not get the water up to third floors of houses.

Mr. Osborne—Anything else?

Mr. Hague—I think that was the principal thing.

Commissioner Osborne—There was no question about extension of main?

Mr. Hague—I do not know about that. I think there was in some of the outlying districts.

Commissioner Osborne—I suppose this company is supplying water to Elizabeth by contract?

Mr. Hague—For city purposes, do you mean?

Commissioner Osborne—It must have some franchise contract which enables it to come in and supply the community.

Mr. Hague—They have an old charter issued by the Legislature years ago.

Commissioner Osborne—Is there any reason why the City of Elizabeth should not put in its own water plant and furnish its own supply if it is not satisfied with the service they are getting.

Mr. Hague—That is a long story. They have had a number of conferences in which they never got down to an original base.

Commissioner Osborne—Regardless of that, why can't you put in your own water supply?

Mr. Hague—We have a right to, but it would not pay with the other company operating there.

Commissioner Osborne—Yes, but if you could operate as efficiently as they can, they would not operate very long.

Mr. Hague—Yes, but the distance which we would have to bring water would make the rate so high, we could not compete with them.

Commissioner Osborne—Haven't they got the same problem that you would have?

Mr. Hague—Excepting they have got their present supply, which is very close to Elizabeth, a portion of it.

Commissioner Osborne—I noticed in the papers filed here that they have got to get their water supply from twelve different sources. In other words, they seem to be reaching out everywhere they can to enhance their supply, so that they can pass it on to the consumer. Now a company that is obliged to go to twelve places for water cannot be in a very good situation for turning on all the pressure that the community might need on short notice, or sometimes, on long notice. It may be the time will come when they cannot get any more water.

Mr. Hague—The water companies have not kept the pace of their increased consumption. They have taken on a number of large factories, particularly during the war.

Commissioner Osborne—They had to take them on, didn't they? You would not want those factories to go somewhere else, would you?

Mr. Hague—But they did that prior to the war and they are doing it to a considerable extent now, where at times they are not giving proper service in that vicinity, where those factories are taking such a large volume during the middle of the day.

Commissioner Osborne—Of course they could not anticipate a war was coming on, and that it was going

to make necessary the sudden erection of large factories consuming large quantities of water.

Mr. Hague—Well, they were anticipating that condition a long time prior to the war?

Commissioner Osborne—They did not anticipate the war?

Mr. Hague—No, but they anticipated an increased demand and they went so far as to build under one of their susidiary companies lines of pipes, I think it is the Piscataway Company, and they built a number of them towards the junction of the Millstone and Raritan Rivers, and they have attempted to get a supply there and they are within three miles of it at the present time, and it seems to me that that line could have been built long before the money market was in the condition that it is now.

Commissioner Osborne—Did they have the money to build it with?

Mr. Hague—I do not know what their financial condition was at that time but I am satisfied that the financial market was such at that time that they could have gotten the money.

Commissioner Osborne—The more I see of the attitude of municipalities on a good many of these services—I do not say it is so in this case, of course— Now they come here and say they want better service and on the other hand say "We won't pay a rate that will enable the company to give the service." That is, to say the least, a rather curious situation.

Mr. Hague—Your Honor, this company occupies a rather unique position in water companies, the supply of water, as you stated, being obtained from so many different sources. It would be nearly impossible, and I think the company's officials realize that themselves, for the City of Elizabeth to acquire the plant of the Elizabethtown Water Company and then look for a supply of water for the City of Elizabeth alone. The cost would be prohibitory.

Commissioner Osborne—In other words, this arrangement is the most advantageous arrangement Elizabeth can make. That is, so far as you know.

Mr. Hague—So far as I know, but the question of the municipality taking over this—

Commissioner Osborne—Well, doesn't it resolve itself into this, that this company, if being operated fairly and economically in the interest of the community and producing and distributing its water at the least possible cost, conceding that it is entitled to a fair return, and that to make the necessary extensions to meet the growing demands of the community it must have a fair return to raise capital for that purpose? Does not the whole thing resolve itself into how much money in the way of rates—because that was the only place these utilities can get it for their operation—how much money is necessary to produce that result and give Elizabeth and these other communities the kind of service that they want? Is not that the whole situation?

Mr. Hague—That might be if everything was equal, but it may be possible that the Elizabethtown Water Company is losing these large quantities of water because of improper pipes and—

Commissioner Osborne—Certainly. Those things we must investigate and can investigate with propriety in determining what the rate should be. But I am trying to see whether we can get these municipalities' views on the basic propositions that underly this whole problem. If it is just resolves itself into the question of the investigation of the efficiency and management of the company and of regulating and all that, we can soon get to the bottom of this whole trouble.

Mr. Hague—Probably your Honor is not familiar with the previous proceedings that have been taken by this company covering some time back. They were directed to install meters by the Board that preceded this. I think there is a recommendation by this Board several years ago asking them to do that, and they have ignored that entirely.

Commissioner Osborne—The Supreme Court has disposed of that and I cannot overrule the Supreme Court.

Mr. Hague—I understand that, but the point I am making at the present time is this is an application for increase of rates by this company. You ask me whether it would not be better for the city to take it over?

Commissioner Osborne—Oh, that was merely as a basis for the next question which we must logically reach. When you say "No, it would be better," then the city must pay to get the service it wants. I do not believe, myself, in a great many of these utilities being municipally owned.

Mr. Hague—I believe water companies should be municipally owned.

Commissioner Osborne—I am not attempting to indicate which ones should be and which should not. I think many of them could be very much more efficiently managed by the parties they have.

Mr. Hague—The various municipalities served by the Elizabethtown Company and subsidiary companies have had meetings from time to time for the purpose of trying to devise some scheme whereby they might take over this company or build water companies of their own, but they never got further than their preliminary stages.

Commissioner Osborne—I do not think we need go into the question of that. Now, if we could approach this proposition from a common ground. All the parties in interest want the best service they can get and the company wants to give it. Then it is a question of determining how much it would cost to give the kind of service you would like to have, is it not? Don't you think we can get further by co-operative effort along that line than by—

Mr. English—Does your Honor ask the municipalities to agree to that proposition? Is not that the law, whether we like it or not?

Commissioner Osborne—It ought to be.

Mr. English—Isn't that the very purpose for which we meet here this morning, that we want better service?

Commissioner Osborne—And you are willing to pay for it?

Mr. Hague—I maintain that part of the service we are getting is not worth what we are paying.

Commissioner Osborne — Now, supposing, Mr. Wherry—we have the improvement to meet here. Are those lines on the map the distributing points?

Mr. Betts—These lines are the transmission lines.

Commissioner Osborne—What I am trying to do here—I may be taking a long time doing it—if you go on taking testimony you can go on for days and days. I had a case in South Jersey just like this, a question of rates and service. The company said they knew the service was bad and if they had the rate they would improve the service. I asked the people representing the municipalities whether if the service was improved they would pay the necessary rate, whatever we found that to be upon investigation; they said, yes. I suppose we saved a good many hours of testimony because both parties agreed to that proposition. Now, can you agree to in what respect the service you complain of is bad? They say it is pressure and you say it is pressure. Is that all?

Mr. Hague—At the previous hearing before the Board that preceded the present Board, Mr. Bergen, as counsel for the Elizabethtown Company and president of the Middlesex Company, and as a director of them, I think, in some of the other companies, admitted all of the conditions we complained of at that time. Now, so far as I know, those conditions that existed at that time have not been remedied, because the solution that Mr. Bergen suggested was an additional supply of water. There has been, so far as I know, no efforts on behalf of the company to take any steps to obtain that additional supply, so I presume that those conditions that were complained of at that time exist at the present

time. I have heard uniformly the same complaints, of the same character, lack of pressure.

Commissioner Osborne—This principal complaint is lack of pressure.

Mr. Hague—I think so. There has been some question of the quality of water. I only know from the newspaper reports that our health department complained of some sickness there temporarily, and the question whether it was due to one and the way the water was treated. But the things complained of at that time, which Mr. Bergen admitted, so far as I know they have not been remedied.

Commissioner Osborne—How do the rates of this company compare with other rates throughout the State?

Mr. Betts—The Elizabethtown Company is a very old company, and it has had these old flat rates. It is not economical because there are so many tenement houses and houses occupied by more than one family, but the company is now trying to get meters installed as rapidly as they can, and it has been found with the meters installed already it resulted in a reduction of the amount of water, and they have got to put in a great many more meters, and that involves quite a large sum of money. You cannot make comparisons because so much business has been on flat rates. The metered rates have had a very favorable comparison with the metered rates of other companies. In fact the rate to the large factory users are comparatively low, and that is where the bulk of the water goes.

Mr. Wherry—We have taken the problem up in the spirit in which the order was made, and have endeavored to comply with the order as far as possible to remedy that condition.

I suppose for the purpose of having the record complete, we should have a statement made that proofs of service were filed with the Board and that notice of this particular hearing was given by the Board.

Commissioner Osborne—I think the record shows that notices were sent to the people interested, and I suppose they are the parties in interest.

Mr. Hague—Notice of services of what?

Mr. Wherry—We served notice first of the filing of the proposed increase with the mayor of every municipality served, and advertised them in the newspapers, and we filed proof of that.

Commissioner Osborne—Then that is a matter of record in this case?

Mr. Wherry—Yes, but we usually recite it on the stenographer's record. Then when the Board has set a date for hearing we advertised that in papers as directed by the Board, one paper in each municipality served, and also sent a notice to the mayor, and I think to the legal representatives, where we know them, but the notices were sent by the Board itself. May those facts appear?

Commissioner Osborne—Yes. I do not suppose you gentlemen care about arguing the legal aspects of your case in connection with the other decision of the Supreme Court in the New Jersey Central Traction Company case, on its possible inconsistency.

Mr. Hague—On what point?

Commissioner Osborne—We seem to have two decisions from the Supreme Court, one deciding one way and one another, on the question of the power of the Board directing the company to do something which it says it cannot do—but inasmuch as regardless of that apparent inconsistent position of the Supreme Court on the law in these cases in matters of this kind, we do take the Supreme Court's decision in this particular case which makes it the law of this case, so I suppose it would be useless to argue about it any further.

Mr. Hague—That decision of the Supreme Court was on the question of metering, was it not?

Commissioner Osborne—Yes, but I was referring to another decision of the Supreme Court in another case.

Nicholas S. Hill, sworn on behalf of petitioners.

Mr. Wherry—Mr. Hill's qualifications are set out in an affidavit filed as part of this case, so I suppose I do not have to encumber the record by repeating them.

Commissioner Osborne—Is Mr. Hill called as an expert or what?

Mr. Wherry—As an expert who has been valuing a company. He is familiar with the plant.

Mr. Hague—Where is the affidavit you speak of?

Mr. Wherry—Oh, well, I will qualify him then.

Commissioner Osborne—I think I would.

Direct examination, by Mr. Wherry.

Q. Mr. Hill, please state what your business is.

A. I am a consulting hydraulic and sanitary engineer.

Q. Where are you engaged in business, Mr. Hill?

A. 112 East 19th Street, New York City.

Q. You are a member of the firm of Hill and Ferguson?

A. Hill and Ferguson.

Q. Now, will you state briefly what experience you have had in the operation of public utilities, and especially water works, in the United States?

A. I am a graduate of Stevens Institute of Technology, class of 1892, and have been in practice as a consulting engineer for the last twenty years, specializing in hydraulic and sanitary work. I have made valuations of some fifty water works properties in various parts of the United States as well as of other utility properties, including railroads, street railways, electric light plants and gas works. Of the fifty appraisals of water works property which I have made, I was employed by the municipality in about fifteen cases, and by the water companies in approximately twenty cases and by financial institutions in approximately fifteen cases. Of the fifty appraisals of water works properties made, fifteen were for establishing fire rates, twenty-five for the purpose of a purchase of sale and ten with a

view to advising financial institutions with regard to capitalization, issues of new securities and so forth. I have been actively engaged in the management of water works properties as chief engineer of the Baltimore, Maryland, Water Department, then individually of the Water Department of the City of New York; as president of the Water Board of East Orange and as president of the Consolidated Water Company of Suburban New York. I have been engaged also by a number of municipalities on water plants in connection with construction problems, furnished specifications and plans for new works and improvements and enlargements of plants. I might mention a number of those towns, but I do not know whether it is worth while.

Q. Mention some in New Jersey.

A. Well, I have been retained in New Jersey by the City of Rahway in connection with its water supply plant; by the Hackensack Water Company on construction work; by the New York & New Jersey Water Company on construction work in laying new pipe lines across the meadows for the supply of the City of Bayonne; by the Commonwealth Water Company; by—

Q. Have you kept records of the cost of work that has been under your supervision or control?

A. Yes; I have constantly kept records of costs.

Q. Now will you please state what you have done in connection with the Elizabethtown Water Company and its allied companies?

A. I was retained by the Elizabethtown Water Company to make a valuation and report on that property for the purpose of advising them with regard to the revenue which it would be necessary for them to earn in order to yield a fair return on their property and to pay the necessary operating expenses and taxes and set up a proper depreciation reserve.

Q. And you made a study, did you, of the problems of the Elizabethtown Water Company?

A. We made a complete study of the entire property and its affiliated companies.

Q. What companies do you mean?

A. The Piscataway, the Watchung and the Raritan Township Water Companies.

Q. Did you also consider the question of the distribution of that rate among the customers?

A. Yes.

Q. How it should be divided so it would be most fair to the different classes of service the companies rendered?

A. Yes.

Q. Now will you please state what the properties consist of, and give us a general outline of the relations of the companies?

A. (Witness produces pamphlet.)

Commissioner Osborne—Do you want this offered in evidence?

Mr. Wherry—I was going to ask him briefly to state and finally I would offer that in evidence.

Commissioner Osborne—I wanted to know whether you had put that in as an exhibit or whether this was just for my—

Mr. Wherry—In order to save time, I thought I would let Mr. Hill outline what we did in order to determine what we thought was a fair rate. That is what we have been basing it on, and this data we can put in evidence as he has prepared it here and perhaps save time, rather than repeating it by question and answer in the record.

Q. Now, will you in your own way take up this problem and explain first the relations of the company and what the problem consists of?

A. The Elizabethtown Water Company supplies Elizabeth and environs and has been for the last few years, with slight variation, pumping on an average of twenty million gallons of water a day. Of this twenty million gallons about ten millions, approximately, is obtained from sources which are owned or controlled

by the Elizabethtown Water Company and the remaining water is obtained either from sources owned by the Watchung, Piscataway or affiliated companies or it is bought at wholesale from other water companies or municipalities. On page two of the description of the property is a table showing the volume of water obtained from each of the sources which now contribute to the supply of Elizabeth. I do not know that it is necessary to go into that.

The Elizabethtown Water Company originally secured the supply. For many years one of the main sources was Elizabeth River on which they have a lake known as Ursino Lake and from which the water is pumped to filter beds, into the Irvington Avenue reservoir and is there pumped for distribution in Elizabeth. This plant is now used chiefly as a balancing or make-up plant which balances the pressure for a long distance through which much of the supply is to be pumped to the City of Elizabeth.

By Commissioner Osborne.

Q. Where do you say it used to get its supply from?

A. This is one of the sources belonging to the company. They have two other sources, the Hammocks pumping station and Springfield pumping station, as indicated on the map, to the north of Elizabeth. Both of these stations derive their supply from wells and the water is pumped from the wells to the distribution system through the necessary force mains. They also secure water by purchase from the Short Hills Water Company, some from the Commonwealth Water Company, some from the City of Newark, and they also secure water from the Piscataway pumping station, which has a well supply, and from the Watchung Water Company, which also has a well supply, and the locations of those two supplies are indicated at the extreme left of the map.

Q. Is the supply from that source pumped into Elizabeth?

A. Pumped into Elizabeth. Now, you will note that a long line of pipe is indicated on the map, running to the east from the Piscataway pumping station and is colored in yellow; then in blue and then in black.

Q. To the east from the Piscataway pumping station?

A. Yes.

By Mr. Wherry.

Q. What is the significance of the colors?

A. I am going to explain now. Without going into the legal questions but simply as an explanation, a charter of the Elizabethtown Water Company limits them to sources of supply within the County of Union, and it became necessary to go without the County of Union to secure the necessary water for the supply of Elizabeth. Instead of having the charter changed or amended, this company bought or organized the Piscataway, Raritan Township and the Watchung Water Companies. The Piscataway Water Company owned the stock of the Watchung Water Company. These companies had franchises and rights in the town of Raritan and Piscataway and under the rights of these companies they had in conjunction with the Elizabethtown Water Company laid a main from the Piscataway pumping station to supply Elizabeth. The original intention was for this main to extend to and through Somerville and Raritan on the Raritan River and have the Somerville Water Company pump water into the main from the Raritan River and furnish a supply to Elizabeth in this manner. The Village of Somerville, however, brought an action to restrain the company from laying its pipes through its streets and was successful in so doing and the scheme was defeated. It was at that time that the Piscataway water and the Watchung water was delivered into this main for the purpose of getting as much water as possible to Elizabeth, and the company has since that time formulated plans for the development of the supply, as shown to the extreme left of the map from the

Raritan River at the junction with the Millstone. That is this broken red line. It was the intention to erect a low dam there and a pumping station and filtration plant and pump the filter or Raritan water and deliver it to Elizabeth through a main that was jointly built by the Piscataway, Raritan Township and Elizabeth Water Companies. In the interim, in order to still fur ther utilize this main, the Elizabethtown Water Company advanced approximately eighty-nine thousand dollars, if my memory serves me, to the Plainfield-Union Water Company for the purpose of enlarging and improving the Park Avenue pumping station of the Middlesex Water Company which is located to the east of the Piscataway pumping station and to the west of Rahway, or about half way between.

Q. (By Commissioner Osborne.) The Elizabethtown Water Company does not own or control in any part the Middlesex, does it?

A. No; it simply—

Q. It loaned them this money to increase the supply?

A. It merely amounts to this, that in addition to paying them a fixed price per million gallons for water received from the Park Avenue station, they add the interest that they would have received if the Middlesex Water Company paid them the interest on this loan.

Q. Now, you say that the Watchung Company was owned by the Piscataway?

A. Yes.

Q. And the Piscataway Company in turn by the Elizabethtown Company?

A. It is owned by the same parties who own the Elizabethtown Company, but not owned by the company itself.

Q. Who owns the Raritan?

A. The same is true of the Raritan as of the Piscataway.

Q. That is it is owned by the same interests?

A. Yes.

Q. Then the Elizabethtown, Piscataway and Raritan stock is all owned by the same interests?

A. Yes. It is practically one company for all intents and purposes.

Q. And the Watchung is owned within the Piscataway, by the Piscataway?

A. Yes. The company derived the supply from the Park Avenue pumping station, which is also delivered to this joint ownership main which I have already described. When it was found that the existing source a few years ago was insufficient an arrangement was made with the City of Rahway to take water over at the source of supply and pump it into the main, and the company also increased the supply from the Robinson Branch of the Middlesex Water Company. The rates which were formerly paid for this water are shown in the table, page two of the description.

Now that in general is the situation as between these different companies, and in the description will be found detailed diagram maps indicating the location of the buildings of the Elizabethtown Water Company at these pumping stations which they own, including the Elizabeth pumping station, the Hammocks pumping station and the Plainfield pumping station, and also the buildings and wells located at the Piscataway pumping station and the Watchung pumping station. And this is set out and detailed in this pamphlet marked "Volume 1, description of property."

A. Yes.

Mr. Wherry—I will offer that.

Commissioner Osborne—Let it be marked.

(Pamphlet entitled "Volume 1, description of property," is marked *Exhibit P-1.*)

Mr. Wherry—One of the copies that I have here has no map in it.

Commissioner Osborne—Well, you could have one made and furnished to him, could you not?

Mr. Wherry—We would have to give him a larger map.

Commissioner Osborne—This could be photographed without much difficulty, could it not?

Witness—I do not think it could.

Mr. Wherry—I will furnish it.

By Mr. Wherry.

Q. Does not this (indicating) belong with the other?

A. Yes, I want to put that in right now.

Q. (By Commissioner Osborne.) Before you go on to any new subject, and before I forget it, this advance of a large amount of money by the Elizabethtown Company to the Middlesex Company, was that taken into consideration by you in your valuation, and how is it treated—as an asset?

A. I treated that substantially as an operating expense.

Q. That is you treated it to capital account or—

A. No.

Q. How did you treat it in the capital account?

A. I did not treat it in the capital account at all to get a return on that. I treated it in this way, the Elizabethtown Company pays to the Middlesex Company say—

Commissioner Osborne—Do you intend to go into this later?

Mr. Wherry—We might as well go into it now, if you have that in mind. It is an important matter.

Commissioner Osborne—If you intend to go into the valuation, or the elements, this will be taken up then.

Mr. Wherry—Yes, but now that it is raised I take it as a good idea to have it— If it is not treated right, the sooner we find that out the better.

Witness—I do not include the $89,000 as a capital asset of the Elizabethtown Company. It it is a loan to the Middlesex Company which may be paid back at some time.

By Mr. Wherry.

Q. You mean you did not include it in your valuation of the property upon which a return is asked for?

A. Yes.

Q. In other words, it may be a capital asset used or useful and not included in the inventory?

A. What I mean to say is it does not enter into the rate base. I have treated it as an operating expense. The company pays, say, forty dollars a million to the Middlesex Water Company and it pays the interest on that $89,000. That is the added charge for the water which the Middlesex Water Company furnishes to them.

By Commissioner Osborne.

Q. I am not quite clear why after it loaned the Middlesex Company it pays it interest on it.

A. The Middlesex Company pays the Elizabethtown Company no interest on the $89,000, and the Elizabethtown Company must raise the equivalent of interest on the $89,000 and pay it each year.

Q. To itself?

A. Yes, or it is the equivalent to having it paid.

Q. Where does that come up?

A. I do not think that treats it as a separate item.

Q. I understood you to say that the Elizabethtown Company paid in addition to the forty dollars a million on the water it gets—it paid the Middlesex Company interest on it.

A. No. I said the Middlesex Company did not pay the Elizabethtown Company the interest on it; therefore the total cost of water to the Elizabethtown Company is the fixed price per million plus the interest lost on the $89,000.

Q. Now how do you treat that $89,000 in the making up of the valuation of the Elizabethtown Company? Did you treat that as capital?

A. No.

Q. Is it your idea they would ever get it back again?

A. I could have done one of two things. I could have treated the $89,000 as capital nvestment and said that the company was entitled to earn a fair return on that $89,000 as well as on the other assets and intangible property. I did not do that. I allowed for it in the operating expense which is another way.

Q. The interest on it you put on the operating expense?

A. Instead of putting the water down as coming at forty dollars a million I put it down as coming as interest on the $89,000.

Q. (By Mr. Wherry.) In other words it is the interest they would pay rather than the return?

A. If I made it to capital account and claimed a return of say eight per cent. on it, that would be one item. On the other hand, this money was absolutely loaned, I think, on a five or six per cent. basis.

Mr. Hague—May I ask a question at this time?

Commissioner Osborne—On this point, yes.

By Mr. Hague.

Q. What, if any, amount was loaned by Elizabethtown to the Piscataway Water Company?

A. They have made advances to Piscataway, Raritan Township, and Watchung Water Company from time to time, to pay the interest on the bonds of the affiliated companies.

Q. Who is paying that?

A. Elizabethtown Water Company.

Q. How much does that amount to?

A. I could not tell you offhand. I can get at the statement of that for you. That will all come out as we take up the valuation of these companies.

Q. The money that was advanced by the Elizabethtown to the Piscataway and Watchung—are those companies paying interest on that loan, to the Elizabethtown?

A. No; they do not earn enough to pay the interest on the money.

Mr. Wherry—I might say that is one reason why we are asking for the increase in rates for Piscataway, for that company. They never earned enough to pay the interest on them and it has been carried as an obligation. Now we are asking for a rate that will enable us to pay for this and let Piscataway charge a rate—

Commissioner Osborne—Piscataway does not serve anyone but the Elizabethtown Company, does it? Does the Piscataway Company have any private consumers?

Mr. Wherry—No.

Commissioner Osborne—Then do we have to fix that rate?

Mr. Wherry—It becomes an operating expense of the Elizabethtown Company. We have just treated Piscataway as part of Elizabethtown.

Commissioner Osborne—It just occurred to me to inquire, where you were buying from the one company and it was doing nothing but sell to you whether you could not buy whatever was necessary to get a supply.

Mr. Wherry—What we did was to take the fair value of the property of the Piscataway and see whether that is what should be included in these operating expenses.

Commissioner Osborne—I suppose you do that because when it comes to valuation you are going to treat this as a whole?

Q. (By Mr. English.) Is your treatment of the $89,000 clearly explained in one of the pamphlets to be introduced in evidence?

A. Yes, sir.

Q. (By Mr. Hague.) And does the pamphlet also show the distribution of the money advanced by the

Elizabethtown Company for the Piscataway and the Watchung?

A. My statements reflect everything which the books show.

Q. (By Mr. English.) And do the books show or reflect all your statements?

A. As far as I know the books are correct. The company have been keeping their accounts in conformity with the rules and regulations of the Public Utility Commission and I have had the books audited and gone over.

Q. I don't mean that. I mean is everything that you have stated this morning, to be found in some of these books? You are not going into any other phase—

By Commissioner Osborne.

Q. Any facts that you have stated regarding the operation of these companies are based upon the records of the companies?

A. Yes, sir.

Q. (By Mr. English.) And are to be found in these volumes?

A. Yes. Of course that is a difficult question to answer, your Honor. I do not know exactly what counsel for Union has in mind but I think all the basic facts that are necessary for explaining this problem are set forth in these papers.

Q. (By Commissioner Osborne.) You said one company loaned another company $89,000. Is that to be found in the books of the company?

By Mr. Wherry.

Q. Is that based on the books of the company or on something else?

A. On the books of the company.

Mr. English—If that is in the books, I do not want to spend any time cross-examining on that point.

By Commissioner Osborne.

Q. Now you are introducing other exhibits?

A. Yes.

Q. These are based on the records of the company?

A. On the records of the company and upon my personal examination and examination made by my employees and upon the inventory made.

Mr. English—I am not attempting to compare these statements with the books, but if the witness rambles aside from these statements, I have to take a note of everything he says. Otherwise I read these books in front of me. I want to know particularly about the $89,000. He says that is in the books?

Mr. Wherry—Yes.

Witness—It might be well, if I may say a word, that the immediate reason for the advancement of that $89,000 was that the Elizabethtown Company wanted more water. The Park Avenue pumping station was located near the line. The Middlesex Company did not require the development but they said they would develop it if the Elizabethtown Company would furnish the capital.

Commissioner Osborne—That is what I understand you intended. Now, are there any other books to be offered?

By Mr. Wherry.

Q. Now, Mr. Hill, you have in connection with this description of property a little volume marked "Maps." Will you explain why you did that separately and what it consists of?

A. These, your Honor, are diagram maps of all the real estate and rights of way, and these parcels, as you see, are all numbered to connect it up with the inventory of the property in that way, so those making an examination can locate the property and check it.

(Pamphlet entitled "Maps" received and marked *Exhibit P-2.*)

Commissioner Osborne—How many copies have you got of these?

Mr. Wherry—Mr. Petty asked for two more of these. If you will let us know how many copies you want, we will furnish them.

Mr. Petty—We would like one for the Newark office and Colonel Betts would like one.

Commissioner Osborne—Can he not use the one the Commission has; I have a duplicate set here.

By Commissioner Osborne.

Q. Can these be blue printed?

A. Yes, sir. I have the tracing of those.

Mr. Wherry—We had one case where we started with about fifteen attorneys and we were put to a great expense that was unnecessary.

Commissioner Osborne—Colonel Betts, you want a copy of this in addition to the record copy?

Mr. Betts—Yes, sir. We would like to have another copy.

Commissioner Osborne—We have one copy here, and when the case is through, I am through with this file, and if it should come up again, we would have access to it.

Mr. Betts—It appears that we have already lost what we had in the Newark office because it went to the court. That is in a previous case.

Mr. Wherry—If we give the court three copies and one to the municipality, that should be plenty.

Commissioner Osborne—Yes.

Mr. Hague—I think that while these copies are to be made, it would cost but very little more to make an additional copy.

Commissioner Osborne—He just said one for each municipality.

Mr. Hague—I understand one for all the attorneys of the municipalities.

Mr. Wherry—That is what I am suggesting.

Mr. Hague—I object to that.

Commissioner Osborne—I think they are entitled to it.

Mr. Hague—Our offices are widely separated, and we ought to each have a copy of it.

Mr. Wherry—Then there are three others. That will be three, and three for the commission. That will be six.

Commissioner Osborne—How many have we here now?

Mr. Wherry—We have given Mr. English a copy. I am supplying Mr. English and Mr. Hague and the Court has a copy. We will straighten it out with the attorneys and supply them with a copy.

By Mr. Wherry.

Q. Now, is there anything in this second exhibit, marked *P-2*, consisting of the maps, any particular map that you want to call attention to?

A. I think not. There is nothing shown except the real estate and the rights of way which the company owns, and I do not think any description is necessary. The maps speak for themselves.

Q. It contains the maps of the real estate, and they are all indicated?

A. Yes.

Q. And its rights of way?

A. Yes, sir.

Q. Now, does it also show the new development at the Raritan and Millstone?

A. Yes, any property which the company owns or owned in the name of the affiliated companies. I think the property out there is in the name of the Somerville

Water Company and not in the name of any of these companies.

Q. You made an inventory and appraisal of these properties, did you not?

A. Pardon me a minute. This map shows some of the property at the junction of the Millstone and Raritan Rivers, and it is in the name of the Somerville Water Company.

Q. (Last question read.)

A. Yes.

Q. And did you make separate ones for each of these four companies, the Elizabethtown, Piscataway, Raritan and Watchung?

A. Yes.

Q. Did you treat them as if they had been consolidated and were substantially one company, in making that appraisal?

A. Well, I made the inventory separately for each company, and arrived at the value of each company independently. I also determined what would be the fair return, operating expense, taxes and proper depreciation reserve for each company separately. Then I treated the companies as affiliated and not consolidated and by taking the amounts which it was necessary for the Piscataway, Watchung and Raritan Township Water Companies to earn in order to earn a fair return. I took that and distributed between any local consumer, and the Elizabethtown Water Company, and included those amounts in the operating expense in the Elizabethtown Company, that is, the proportion Elizabeth should pay them in order to allow them a fair return.

Q. In other words, what you took as a rate base for the Elizabethtown Company included Elizabethtown property used and useful in the business and such proportion of the property of these other companies which was devoted to the supply of the customers of Elizabethtown?

A. Yes.

Q. Then the $750,000 appearing to be the value of Piscataway only represents so much of the value of the property used in the business of the Elizabethtown Company?

A. No. That represents the total value of their property and I separated the revenue payable by Elizabeth and by the local consumers, and the amount that was payable by the Elizabethtown Company was included in the cost of purchasing water. There were two methods by which it could be treated. You could treat these companies as one company and estimate the gross operating expense that would be required, and also the gross fixed charges. If you do that your fixed charges would be increased by the amount of interest or return which would have to be paid on the properties of the Piscataway, Watchung and Raritan Township Water Companies, and the bulk of the increase would come in the fixed charges. As I have done it, I have estimated what those same fixed charges would properly be and included it in the operating expense of the Elizabethtown Company and added to that operating expense only the fixed charges on the capital invested in the Elizabethtown Water Company property. The two things work out to the same end.

Commissioner Osborne—Do you gentlemen wish to cross-examine on this, or do you understand the situation?

Mr. Hague—Well, I expected to, if I could, reserve my right of cross-examination until after I had examined these maps and exhibits and had the testimony.

Commissioner Osborne—Very well.

Mr. Wherry—We only want to make clear the way in which we have done the thing.

Witness—I think it will come out very much more clearly, Mr. Wherry.

Mr. Wherry—I think it will, as we go along. It was a somewhat difficult thing for counsel to work out here as to how we would—

Commissioner Osborne—Yes. This is a very complicated situation.

Mr. Wherry—And I want to make it as clear to you as it is now and so I advised the company to do it.

Q. (By Mr. Wherry.) Now, you formed an opinion of the fair value of these properties as of a certain date, did you not?

A. Yes.

Q. What was the date?

A. The date was January 1st, 1921.

Q. And that was the date that we took to estimate the operating expense and all the data at that one date in fixing these rates.

A. Yes.

Q. Will you please state whether on this property you formed an opinion of the fair value, including all the property of the Elizabethtown Water Company that was used and useful in its public business?

A. Yes.

Q. Did you exclude any items on the ground that were not used and useful?

A. Yes.

Q. And you valued what was left?

A. Yes.

Q. What in your opinion was the fair value of the property of the Elizabethtown Water Company at that date?

Mr. Hague—Is that just the Elizabethtown Company itself?

Mr. Wherry—Yes, first.

Commissioner Osborne—Which exhibit are you referring to?

A. Four million eighty thousand dollars.

Q. (By Commissioner Osborne.) Where is that found in that exhibit?

A. In another one which I am going to offer.

Q. (By Mr. Wherry.) This page I am going to offer is also exhibit four and it will be page eighteen. I will mark that for identification as exhibit four. May I mark the inventory for identification exhibit three? The other is exhibit four and we will put it in evidence at the proper time.

Now you appraised the value of the Piscataway Water Company in the same way, as of January 1st, 1921, did you not?

A. Yes.

Q. In that valuation did you include the property that was used and useful in the business of the Piscataway Water Company regardless of whether it was used for supplying Elizabeth or elsewhere, so long as it was used for supplying its public customers.

A. Yes.

Q. Did you exclude any items of property in the Piscataway Water Company on the ground that it was not used and useful in the public business?

A. No.

Q. What is the fair and reasonable value as of January 1st, 1921, of the Piscataway Water Company property, in your opinion?

A. $750,000.

Q. And the Raritan Township Water Company, did you form an opinion of the fair value of that property as of January 1st, 1921?

A. Yes.

Q. In forming that appraisal did you exclude any property on the ground it was not used and useful in the business?

A. No.

Q. In the Raritan Township Water Company, did you include all the property that was used and useful in the public business, regardless of whether it was used simply to supply Elizabeth or elsewhere?

A. Yes.

Q. And what was the value?

A. $250,000.

Q. That is your opinion of the fair value?

A. Yes.

Q. With the Watchung Water Company did you form an opinion of the value of that property as of January 1st, 1921?

A. Yes.

Q. In making that appraisal, did you exclude any property of the Watchung Water Company on the ground that it was not used and useful?

A. No.

Q. That company has customers other than Elizabeth, has it not?

A. Yes.

Q. Did you in making that appraisal make any separation between the property that was used and useful for Elizabeth and for supplying the other customers?

A. Yes.

Q. In that appraisal?

A. Not in reaching the total value.

Q. You valued all the property used or useful in the business of the Watchung Water Company, whether it was used to supply Elizabeth or its other customers?

A. Yes.

Q. What in your opinion was the fair value of the property of the Watchung Water Company as of January 1st, 1921.

A. $270,000.

Q. In forming that opinion I am going to ask you the method that you followed and ask you also to give your reasons for the opinion that you have formed and which you have stated here. First, will you please state how you made up your inventory and exactly what you excluded and why you excluded it and what you included and how it was included—briefly, that. And if it is embodied in the exhibit we will put the exhibit in.

Q. (By Commissioner Osborne.) I am not quite

clear about this; I understood you to say in reply as to the valuation of these three companies that in some instances you valued everything and in certain other companies you excluded certain things. I wondered why there was that discrimination, why you did not use the same yardstick for all.

A. Because in the case of the Elizabethtown Water Company there were certain parcels of real estate which there was some doubt about the cost of securing originally and which could not now be allocated as used or useful for water works purposes. In other words, the plant would operate or function equally well without those points.

Q. So you excluded those?

A. Yes.

Q. As to the other three companies, what did you exclude?

A. There was no such reason for excluding the property of the other companies.

Q. So in the other companies you took in all the property on the theory it was used or useful?

A. Yes.

Mr. Wherry—If there had been any property not used or useful in the other companies, you would have excluded that?

Witness—Yes, sir.

Commissioner Osborne—Now you may answer the question counsel asked you when I interrupted.

Q. (By Mr. Wherry:) Now if you will explain about this. (Previous question read as follows: "In forming that opinion I am going to ask you the method that you followed and ask you also to give your reasons for the opinion that you have formed and which you have stated here. First, will you please state how you made up your inventory and exactly what you excluded and why you excluded it and what you included and how it was included—briefly, that is.")

A. I suppose it would be immaterial if I changed the order of that slightly for convenience?

Q. No. That is all right.

A. In the first place, we did two things simultaneously. We put a party in the field and made a detailed inventory of all the property and plant of these four companies. At the same time that that was being done we made an investigation of the records of the company for the purpose of ascertaining if it was possible to secure the actual costs of the property. The actual costs are seldom available, and the records of this company are very old and we found in this case, as in most cases where we have been called, that the costs, records, were not such as to be reliable, were not consecutive or complete.

Q. (By Commissioner Osborne.) That is what you call historical costs?

A. I mean the actual costs shown as the plant was built, what is called historical costs in some instances.

Q. Yes.

A. We did, however—well, I won't take that up at this time. For the reason that these costs were not available, we discontinued our effort to secure the actual cost of the property, but we did have the books and accounts of the company gone over and secured the balance sheet which showed the book cost of the property.

Q. That is the cost which they carried on the books?

A. As they carried it. As a test against the fairness and the accuracy of the cost as carried on the books, we made a reproduction estimate based on our inventory, based on pre-war figures, for the purpose of testing the book costs just as a check against it, which I will explain later on. Having put a party in the field and made an inventory of all of the properties, the items of property were taken off and placed in schedules according to the classification of the New Jersey State Public Utility Commission in this form (indicating), in sufficient details to take it up; and those were priced for the purpose of ascertaining the fair value of the property. The

individual items were condensed and summarized in the summary tables which will be presented in the exhibit four for indentification.

Q. (By Mr. Wherry.) Now tell us, first, what does *Exhibit 3* for indentification consist of?

A. *Exhibit 3* for identification, as I explained, is the detailed inventories and schedules arranged according to the classification of the New Jersey Public Utilities Commission.

Q. Will you hand both these volumes up to the Commissioner?

A. (Witness hands pamphlet and book to the Commissioner.)

Commissioner Osborne—I do not think counsel will need these. Will you? You can inspect the Commission's copy. This is a very voluminous piece of work.

Mr. Wherry—We will give two copies to the Board and the municipalities' representatives can arrange to use it.

Mr. Hague—If later on the municipalities should engage an expert, I would ask that a copy be given for the joint use of all the municipalities.

Commissioner Osborne—If you decide on following that course, such an arrangement will be made.

Mr. Wherry—I offer *P-3* for identification.

(Book referred to as inventories and schedules heretofore marked *P-3* for identification, is marked *Exhibit P-3.*)

Commissioner Osborne—Do you object to this being put in evidence?

Mr. Hague—I do not wish to agree to it or to object to it.

Commissioner Osborne—Well, it is there before you. If there is no objection it will be admitted in evidence.

Mr. Hague—I suppose you can reserve the right to object to it?

Commissioner Osborne—No. You must either object or admit it now. You may reserve the right to cross-examine on it. He is testifying on it, and it must go in evidence or stay out.

Mr. Hague—We are not in a position to cross-examine on it.

Commissioner Osborne—Yes, you can.

By Mr. Hague.

Q. Was this prepared by you?

A. Not every bit of it by me personally.

Q. How much was prepared by you personally?

A. It was prepared directly under my supervision and direction by assistants in my office.

Q. How much was prepared by you personally?

A. Well, I cannot say I did the typewriting or paging or—

Q. Did you compare it?

A. I compared it and went through it and checked it up when it was finished, and went on the ground and over the property while the inventory was being made up and gave instructions to my assistants and conferred with them while the inventory was being prepared, and they submitted various questions about what was to be done with this, that or the other items.

Q. Are these various items in this book here compared by you?

A. Yes.

Q. With what?

A. Compared with the plant on the ground.

Q. Well, did you have the book with you when you made those comparisons?

A. Not this book, no.

Q. I am talking about this book.

A. I had the original inventories in the rough on hand.

Q. Then you did not compare this?

A. No.

Q. You do not know whether this is a correct transcript of the original or not?

A. No, but I can put the men on the stand who did compare them if you desire.

Q. (By Commissioner Osborne.) This contains items of property and the cost of reproduction allowed?

A. Yes.

Q. Where did you get the cost of reproduction? From what did you take these figures on the cost of reproduction, current price lists or where?

A. We obtained the unit or base costs first by taking the records of the cost of materials and labor, which we already had in our office, covering a period of years, costs of similar items in other companies in this vicinity by studying records and vouchers of the Elizabethtown Water Company to see what they had paid, for example, for cast iron pipe, lead, brick, sand, for a period of years, and also by consulting the current records of published prices in the trade journals.

Q. Is that the accepted method in making reproduction costs?

A. That is the accepted method.

Q. I notice you have under the item of "accrued depreciation" certain figures. How did you arrive at the accrued depreciation?

A. The accrued depreciation was arrived at by taking the age of every element in the plant, determining the age of their life, of every live element in the plant, and then we based upon those respective elements its life expectancy. Deducting the age from the life expectancy, we got the period it was to live and determined the average age or life expectancy from all the elements in the property and in that way got the average age or average life expectancy in that plant. At the same time that was being done we assumed a rate of depreciation on these items and determined the depreciation in this way.

Q. That is the way it is done by engineers in matters of this kind?

A. Yes.

Q. And you applied your experience in reaching your conclusions as to the extent of depreciation?

A. Yes.

Commissioner Osborne—Colonel Betts, is there anything you wish to ask this witness on the inventory which will be useful to you in checking it up?

Q. (By Mr. Betts.) Ahe the methods employed in preparing this inventory the same as those that were used in preparing the inventory of the Hackensack Water Company?

A. Substantially the same. It is about the same as we used in all the inventories in the last ten years.

Q. Has the Elizabethtown Water Company an equipment of maps as good as those used by the Hackensack Water Company?

A. No.

Q. It was necessary to use other maps to complete the inventory, or how did you get at the layout in a number of these communities where the maps were not complete?

A. We went into the field. They have records of their pipe lines and they also have certain records and drawings, but the file is not as complete as the Hackensack Company; but we secured sufficient information between the office and personal inspection in the field to get all of the items, and also by consulting the officers of the company where we were in doubt as to the history of the different elements and where things were located.

Q. Now you spoke about the methods of obtaining the prices that were the customary methods, but what was the basis for the unit prices in this appraisal?

Mr. Wherry—I am coming to that question of unit prices and the method there. First I wanted to get the inventory in.

Commissioner Osborne—I think I am responsible for injecting the question of prices. I lost sight of the fact you did say you would confine it to the inventory. This book you are offering in evidence now contains the inventory and unit prices.

Mr. Wherry—Yes, I think that ought to be brought out. I think there is a discussion of it in the second exhibit, which I am going to offer next.

Commissioner Osborne—This is really for the purpose of ascertaining whether this exhibit is properly admissible in evidence.

Witness—If I may be permitted, all of these questions which have been asked will come up in due order in the explanation of how the appraisal was made.

Commissioner Osborne—Have you anything further?

Mr. Hague—No, except I reserve my right of cross-examination.

Commissioner Osborne—On the contents. This is on the question of its admissibility.

Mr. Hague—Yes.

Commissioner Osborne—It will be admitted.

Witness—Exhibit three is the inventory of the property up to and including January 1st, 1919. We originally made an appraisal as of that date, and the additions to the plant and the reductions from the plant made since anuary 1st, 1919, will be found in exhibits—table 7-E, pages 16 to 17 in volume three, of the valuation marked Ex. four for identification. Those tables bring this inventory up to date.

Q. (By Mr. Wherry.) Up to January 1st, 1921?

A. January 1st, 1921. Now, having determined that actual cost—the book costs were not obtainable—

Q. There is a previous question which has not been answered and that is the question of what you excluded

or included, and why? I want to get the inventory cleared up first before we give the prices or values of those items.

A. Well, I can transfer that again.

Mr. Betts—So far as the inventory is concerned, he included the whole thing and the deductions have been made after the appraisal.

Mr. Wherry—Yes. He excluded some of it as not being used and useful, and I thought that would be the next thing to take up in an orderly way.

Witness—Well, I have stated that in estimating the cost of reproduction of the tangible property, a complete detailed inventory of the entire plant was made, and the pricing of that inventory was done by my office except the real estate and water rights, which were valued by real estate experts—the real estate and rights of way, which were valued by real estate experts employed by the company. The other parts of the plant which are pertinent or form part of the reservoirs have been allocated to the accounts to which they belong. In view of the fact there may be some difference between the Commission and myself, as to the allocation of the real estate to the different accounts, I have put the real estate in one account so it can be allocated at one time by the Commission in allocating the real estate to the different departments. Existing obsolete items which have a certain scrap value are appraised at their value considered as scrap. Items such as the Chilton Street distributing reservoir, which are not ordinarily used at present, but which may be used in emergencies, are included in the inventory. The inventory contains four items of real estate and one structure, which I omitted or eliminated from the rate base on the ground that they were not used or useful water works property.

Q. Where are those?

A. The items referred to are real estate parcels numbers 59 and 60. On the west side of South Broad Street, Elizabeth, where it crosses the Elizabeth River; the warehouse now standing on these parcels; real estate parcel No. 61, which is known as the Louisa Street lot, and real estate, parcel No. 62, known as the Irvington Avenue lot. There are no structures on parcels 61 and 62, and I want to say in eliminating them I am not sure that all of them should be preliminary. Parcel No. 59, along the north bank of the Elizabeth River, was acquired from one Peritz. Parcels Nos. 60, 61 and 62 were acquired under a sheriff's sale to satisfy a judgment. The record of prior ownership is not clear. There is an obscure reference which seems to indicate that there may once have been an old saw mill at the Broad Street site, and it may be that parcels 59 and 60 were acquired in the early days in order to procure necessary water diversion rights on the Elizabeth River, but they were eliminated.

Q. (By Commissioner Osborne.) Even if they were secured for purposes of the company then used or useful, why are they shown?

A. As a general rule property obtained for the purpose of securing rights necessary to obtain a supply, they are accepted as part of the expenditure made for purposes used or useful.

Q. Well, if it is no longer used or useful it ought to be disposed of?

Mr. Wherry—In getting at the historical cost price, you would include it?

Q. (By Mr. Wherry.) Was there anything else that you excluded from the Elizabethtown inventory?

A. Yes.

Q. And is that set out on page six of exhibit four for identification?

A. Yes. There is one other thing I would like to say, Mr. Wherry, and that is, there are quite a few items of second hand property will be found in the in-

ventory. Where the company purchased an engine second hand or a boiler second hand, in the case of those elements of property I placed them in at full value new and depreciated them not from the date that they were installed, but from the date they were built, and I made no allowance of any addition for the repairs that were made to them at the time the second hand unit was installed, in order to put them into condition, but I simply went back as if the unit had commenced its service life at the time it was built and depreciated it by that much more than from the date it was installed.

Q. (By Commissioner Osborne.) You had to get at the true value or the actual depreciation?

A. Yes.

Q. (By Mr. Wherry.) Now take up the question of your price basis. You put unit prices on each one of these items as you went along?

A. Yes, on every element going into the plant, including the cast iron pipe, brick, and the sand, cement, stone and the like.

Q. Now as I understand it, you attempted to find the actual cost, the historical cost, of the different units?

A. We did.

Q. Is this price which you have put on for that purpose in exhibit three, similar to the cost used as a basis for forming an opinion?

A. Well, exhibit three gives several bases of valuation. Exhibit three has the price of materials and labor based on ten years average prices from 1911 to 1918, inclusive, on all items covered in the inventory.

Q. That is not ten years, 1911 to 1918?

A. 1909 to 1918, I meant to say.

Q. (By Commissioner Osborne.) I think you said a little while ago that you used pre-war prices?

A. In testing the book cost as carried on the books of the company only. In estimating the cost of reproduction I used ten-year average prices prior to 1918 on all items contained in exhibit three.

Q. Then did you finally use the cost of reproduction as the value?

A. Yes.

Q. The valuation then is the cost of reproduction?

A. Yes.

Q. Based upon ten years' average prices prior to 1918, and that included the war period?

A. Yes. And for the items which have been added since 1918, I took the actual cost of those items since 1918.

Q. (By Mr. Wherry.) Now that covers the tangible property that is included in the inventory. What did you do with respect to overheads, structural overheads.

A. I have not come to that, Mr. Wherry.

Q. That is not included in volume six?

A. No; I was coming to that.

Q. I just want to know what the volume exhibit three contains. Does that volume, exhibit three, simply contain the physical property with a reproduction cost affixed to it, based on a ten-year average?

A. Ten-year average prices for material.

Commissioner Osborne—You said volume three.

Mr. Wherry—Exhibit three.

Commissioner Osborne—Volume two is exhibit three.

Q. Now, in exhibit three in addition to the estimated cost of reproduction, you have a column which is marked "cost of reproduction allowed." What is the distinction between those two columns?

A. Well, that column is there for the purpose of making arbitrary adjustment.

Q. By that what do you mean?

A. An adjustment that may be made from judgment after prices are applied.

Q. (By Commissioner Osborne.) That is what you did?

A. Sometimes.

Q. I understood you a few moments ago to say you took the average prices for ten years. Did you modify that—

A. This is a form that is prepared for use in making these inventories, and the space provided in columns two and three for noting the original cost or book value, where such costs are obtainable. In addition we have two columns, four and five, for noting down the estimated costs of reproduction. Now, when we have both those figures sometimes we use a modified value, as shown in column 6, in getting at the valuation.

Q. Then in other words you use your judgment based upon whatever data you may have?

A. Yes.

Q. When you do not have anything to put in the cost column, or estimated cost column, you use the cost of reproduction on the period you have adopted?

A. Yes.

Q. (By Mr. Wherry.) Now go ahead and explain each of these columns, what it is used for, and what the figures indicate. You have told what columns two, three, four, five and six are used for. How about the figures in columns seven, eight, nine, ten and eleven.

A. Well, in column seven is noted the life expectancy of the article and in column eight the age and from those two items the accrued depreciation is shown in columns nine and ten, is figured, and deducting the accrued depreciation in column ten you get the present value of the cost of reproduction less accrued depreciation.

Q. Now, the life in years, does that mean the life in years from the date you have taken for your appraisal?

A. No; that means that we estimate—take for example page 324 of the appraisal.

Q. Yes.

A. There you will see one steel stack, forty-two inches in diameter and seventy feet high. We estimate that a stack of that type would have a life of thirty years from the time it is built, and, in this case, this stack had an age of eighteen years at the time the appraisal was

made. In other words, eighteen-thirtieths of its life expectancy had been used up by taking the sinking fund mortuary tables or depreciation table, we obtain the percentage of depreciation which had accrued, and taking that percentage of the amount of estimated cost of reproduction in column five, you get the accrued depreciation.

Q. You do not mean column five?

A. Yes, column five, the percentage.

Q. Column 9?

A. No; the percentage in column 9 of the amount in column 5, which gives the amount of the accrued depreciation.

Q. The amount of depreciation in column ten, and then the present value which is in column eleven?

A. That is column five less column ten.

Q. Now look at page 508. There you do not find any figures for life in years or age in years. That is just because you are carrying that forward?

A. That is probably because we could not find out how old—

Q. Or is that just carrying it forward?

A. We have the life at the bottom of page 510. We could not find out the age of that building exactly, positive, and we depreciated it fifty per cent.

Q. Where you could not find the age, did you estimate that age?

A. Made a fair allowance for depreciation, yes.

Q. You estimated the age?

A. Yes—well, I would not say that. What we did was to look the property over and make an estimate of what it would cost to reproduce it and then allow what we thought would be a fair value for the building in the shape it was in, and that is equivalent to making an allowance for the age.

Q. What you did was make an inspection of all this property and then base your estimate of its depreciation

tion, not merely by the theoretical table but by actual inspection.

A. That is true of all depreciation. Although we use depreciation tables in estimating accrued depreciation we do not confine the work to tables at all.

Q. (By Commissioner Osborne.) If you went there and found this machinery, because of neglect or abuse, was in worse condition than the depreciation table would indicate it should be, you would give its true or actual depreciation?

A. Yes.

Q. That is what you mean to say?

A. Yes.

Q. (By Mr. Petty.) For information, Mr. Hill, what rate of interest did you use in computing that—

A. Three per cent.

Q. (By Mr. Wherry.) Now I think we have finished with the general examination with regard to *Exhibit 3*. I would like to have you sort of tell in your own way what else you did to complete the prices. That is, after you got the physical property you had to get the unit prices. Is there anything more you want to state with regard to unit prices?

A. I may say that the prices given in the inventory are—

Q. (By Mr. Betts.) Before you leave the inventory I would like to ask this question: To what extent have you included in the property owned by the company the service pipes leading into the individual customers' apartments?

A. I can answer that question in a little different way. I have made a determination, as far as possible to do, of the actual ownership of the service pipes, and all service connections not owned by the company have been excluded.

Q. It included only those that the company had to put its money into?

A. It is the rule in the inventory that we have nothing in this of which we have knowledge the company does

not own. In other words, the inventory is meant to portray everything used or useful, or obsolete so far as the cost which the company expended can be checked, which the company owns, and to include nothing else.

Q. (By Mr. Wherry.) Now, perhaps, in getting clear this question of unit costs that you have used, you made an estimate to ascertain what it will cost to reproduce the plant?

A. Yes.

Q. You took into consideration various ways in which that might be arrived at?

A. Yes.

Q. Will you state what things you took into consideration?

A. Well, I took into consideration the actual cost of the property to obtain it, and I took into consideration the investment which has been made in the property. I took into consideration the value of the property following the rule laid down by the courts that the thing to be determined is the fair value of the property used or useful and in determining the fair value of the property, I determined it upon different bases. I made estimates of the cost of reproduction on pre-war bases, on ten-year average prices for the last ten years; on the pre-war price basis; on current prices since the date of the valuation; on current prices in 1921, and after looking over all these phases of the cost of reproduction, I selected one which I thought would represent fairly a modified value for this property—that is, a value which would neither be the maximum as a result of the war conditions, nor a minimum which would be represented by the pre-war basis, but the value which would probably represent what would be the value were this valuation being made ten years hence, one which would in the light of what we can see represent the permanent set in the price level.

Q. (By Commissioner Osborne.) Then, what you tried to do, as I understand your testimony, was to on all these bases, with a view to the future as well as the

present, try to determine what the fair value of that property would be?

A. Yes.

Q. Not merely the present date value or its value six months ago, or over a period of ten years?

A. That is true.

Q. But taking it ten years back and ten years in the future, as far as you were able to do it.

A. As nearly as possible.

Q. (By Mr. Wherry.) You were trying to get a permanent base so it would not be fluctuated, if in 1921 prices were up and six months after prices would topple down, you would have to have a revision of your value?

A. That is true. Prior to the upheaval of the war, the price ranges for several years showed a rise and fall in a uniform way, and then the prices indicated a fair plane to stabilize the situation. That is to-day practically the same as that which followed the Civil War and the Franco-German War, and that is the cheapening of money, and you have to say what the permanent level will be to establish a fair level in the future.

Q. (By Commissioner Osborne.) Then you would not take for instance the last five years as the basis?

A. No, sir; I decided on ten-year prices, from 1909 to 1918, in this particular case.

Q. You think that the war prices would represent an abnormal situation and would not truly represent present value?

A. That is true.

Q. (By Mr. Wherry.) Then from 1918 we took the actual cost?

A. Yes.

Q. And the conditions since then are set out in *Exhibit 4?*

A. I had in mind that what this Commission desires to do is to establish a permanent fair base which will be used just as the Hackensack appraisal would be used, for example: we have made additions to the plant since then at cost because we received instructions to show

the cost of all new additions to the plant, and having once established that value, from there on what the Commission will take into view is the investment since that time.

Q. (By Commissioner Osborne.) Did you make the Hackensack valuation?

A. Yes.

Q. Did the Commission adopt your valuation?

A. No, they did not. They had a conference between the Commission's engineers, and the engineers of the municipalities and of the water company, and we agreed on the valuation.

Q. Then it was settled by agreement?

A. Yes.

Mr. Wherry—The tangible values there was practically no difference of opinion on it. There was some difference with regard to the overhead and intangibles. We did not agree on overheads. We agreed on a base rate, leaving the intangibles without any agreement.

Commissioner Osborne—The Commission fixed the intangibles?

Mr. Wherry—No, it was not fixed.

Q. (By Mr. Betts.) What price did you fix for cast-iron pipe per ton?

A. $32.50.

Q. Are other items of material in the same general proportion?

A. If you would like to have some of them, I can give you the unit prices they adopted.

Q. (By Mr. Wherry.) I wish you would take up some of the items and give them, Mr. Hill.

A. We used common brick at nine dollars a thousand. Of course, these prices show in the inventory. Cement, at $1.75 a barrel; gravel, $1.30 per ton; pig lead, six cents.

Q. Do you know how any of these prices you have just quoted compare with the present level to-day?

A. In some they vary. Now gravel is higher than

the price quoted here. Brick is higher. Cement is considerably higher.

Q. (By Commissioner Osborne.) Now?

A. Now, yes.

Q. (By Mr. Wherry.) Even with the fall that has taken place?

A. The fall actually is not as real as it seems when you get into these things. A few items of construction have fallen, but I have the operating reports of purchasers of some fifteen or twenty water companies coming to me, more or less, and most of them are operating at a higher rate this year than last year.

Q. (By Mr. Hague.) How does the price on cement or brick compare with pre-war prices?

A. Very much higher.

Q. What is the price of cast-iron pipe?

A. The present price for it is forty-two to forty-eight dollars a ton.

Q. (By Mr. Wherry.) What do you put it in at?

A. $32.50.

Q. (By Mr. Hague.) How does that compare with pre-war prices.

A. Pre-war prices averaged for the Hackensack, Elizabethtown and Citizens and other water companies in this vicinity in the neighborhood of twenty-seven or twenty-eight hundred dollars.

Q. (By Mr. Wherry.) You do not mean Elizabethtown?

A. No; I mean East Jersey.

Q. (By Commissioner Osborne.) Do they use larger pipe than this company uses?

A. Six hundred pound base.

Q. Isn't the price lower to companies that use a large diameter pipe?

A. The foundries will make a slight reduction on the ton basis on the larger size of the pipes, but it is chiefly between four and six inches.

Q. The point is merely whether the Hackensack and East Jersey quotations are comparable with those for

a company that uses smaller pipe and had to pay more money for it.

A. The probabilities are that the Hackensack Company being a so much larger purchaser and ordering in so much larger numbers, and the East Jersey, would buy, perhaps, much more cheaply than Elizabethtown. They cover such enormous areas. The East Jersey has Paterson, Passaic and so forth, and the mileage of pipe is very much heavier.

Q. (By Mr. Wherry.) As a matter of fact in the selection of pipe and trying to get a uniform delivery on pipe, they sometimes have to pay a little more, don't they?

A. Yes. A water works man is very often put to it whether in order to get the pipe and to be sure of it, it is advisable to make a contract by the year on pipe delivered, and if the market goes with him, he is very happy over it, and if it goes against him, he is very much criticized. I have known cases where it was advisable to do so.

Commissioner Osborne—Have you any further cross-examination on this point?

Mr. Hague—Not now.

Q. Do these unit prices include overheads?

A. No; that is the price f. o. b. cars delivered at Elizabeth.

Q. And without the overheads?

A. Yes.

(At one o'clock in the afternoon a recess was taken until two o'clock.)

AFTER RECESS.

(Hearing continued before Commissioners Treacy and Osborne.)

Nicholas S. Hill, Jr., resumes the stand.

Commissioner Osborne—Have you finished with the cross-examination?

Mr. English—I was not cross-examining.

Mr. Wherry—I was examining when we concluded.

Direct examination, continued by Mr. Wherry.

Q. Mr. Hill, you were starting to explain the treatment of overheads in your appraisal. As I understand, in this exhibit three, you have not included in those prices anything for structural overheads?

A. No.

Q. It is simply the material and labor costs?

A. Yes, and the contractor's profits.

Q. Now just define structural overheads and state how you get it.

A. The inventory contains the actual cost of the materials and labor going into the work and these costs include the rate per day or per hour paid for labor of different classes and the costs per unit on material delivered f. o. b. cars at the nearest point of delivery for work, plus where the point of delivery is, which must be added. If the work was done by contract the contractor's profit, of course, would have to be added, as well as the contractor's overhead or expense, and even if the work is not done by contract, there is a corresponding item of expense if the work is done on force account, and those are the items that are included in the base cost of the inventory.

Q. What do you mean by "force account?"

A. I mean work conducted by the company, where the labor is paid directly by the company and the materials are bought by the company and they form their own organization for the purpose of carrying on construction work. Some companies let all the work by contract, some do it by force account, and some do it by force account and some by contract, but in either event there are these specific charges that have to be added to get the cost of the work. After that there are the overhead or miscellaneous construction expenses which every company must pay, which include conting-

encies, errors and omissions and legal and general expenses and taxes and insurance during construction and interest during construction. Now the overhead allowances which have been made in this appraisal and which have been added on the top of the base inventory prices are shown on table No. 5 of exhibit four. I do not know whether that has been handed in or not.

Q. Does exhibit four contain a statement of how you valued the property?

A. Yes.

Mr. Wherry—I offer it in evidence.

(Pamphlet entitled "Volume 3, valuation of plant." heretofore marked *P-4* for identification, is offered in evidence and marked *Ex. P-4.*)

Q. Now go ahead.

A. By reference to table five, the last page of that table, at the lower right hand corner it will be seen—

Q. (By Commissioner Osborne.) How many pages does table five cover? Is that page five?

A. It is just before page five. Now, by referring to the lower right hand corner on the last page of table five, you will find that the gross overhead allowance is 17.38 per cent.

Q. (By Commissioner Treacy.) 17 or 117?

A. That is 17.38 above the base cost. That is, the value plus the overhead is 117.38, taking the base as one hundred per cent.

Q. (By Commissioner Osborne.) So that the overheads amount to over seventeen per cent.

A. Yes. You will notice that the overheads vary to suit the particular type or class of work. Following immediately behind the table showing the overheads, will be found, between pages five and seven, table No. 6, which is the summarized cost of reproduction of the property and plant of the Elizabethtown Water Company as of January 1st, 1919, and the values found in the last column of that table, and the total value at the lower right hand corner on the last page, $2,467,932,

is the gross cost of reproduction without depreciation deducted, and with the 17.38 per cent. allowance for overheads, and the figures given in the columns 3, 4, 5, 6, 7, 8, and 9 are the figures produced by applying the corresponding percentages as given in table five under those same columns on the base cost as given in column two as one hundred.

Q. What do you say the total valuation is?

A. That is the total valuation of the—

Q. Are you sure you are right about that?

A. No. I did not have the final sheet. The total value is $4,185,493.

Q. That is all the company's, is it not?

A. That is the value of the total tangible property, undepreciated.

Q. Of the Elizabethtown Company alone?

A. Of the Elizabethtown Company alone.

Q. (By Mr. Wherry.) Now, in this same exhibit, you have a similar table for the other companies?

A. As you pass through this volume you will see that it is subdivided by—

Q. (By Commissioner Osborne.) Blue prints?

A. It is subdivided at page eighteen by a green sheet headed "Piscataway Water Company." "Now, similar tables for the Piscataway Water Company will be found following that subdividing sheet and, by reference to page twenty-five, immediately following that, the Raritan Township Water Company, and, at page thirty-two, the Watchung Water Company.

Q. (By Mr. Wherry.) You used the same method for each of them?

A. Yes, sir.

Q. (By Commissioner Osborne.) These are all undepreciated values?

A. Each one takes up first the depreciated and then the undepreciated, following the same routine for each of the four companies, and the same method is given as with respect to Elizabethtown, but the method is the same in all. I have already mentioned the items of real

estate which were deducted from this $4,185,493, as not being used or useful and which will be deducted, and subsequently we find the final value. From pages seven to nine is given a discussion of the price basis, the methods used for determining the fair price, and the results of those studies and how the prices were applied to the units in getting reproduction cost as given.

Q. (By Mr. Wherry.) What does table No. 1 show, Mr. Hill?

A. Table No. 1, following page eight, gives the average prices of materials in the city of Elizabeth from 1909 to April 1st, 1921. Those were obtained by making a canvass of various contractors in the city of Elizabeth and determining from them what their prices were during that period. And in addition to that, as I testified to before they obtained prices paid by the Elizabethtown Water Company from vouchers on file in their office.

Q. Under "pipe" you have something different, cast-iron pipe?

A. Yes. Now, in the case of cast-iron pipe we not only took the prices of the Elizabethtown Company but of other companies in New Jersey and in the vicinity of New York and also the prices as given in the Iron Age.

Q. Yes.

A. Table two, which follows table one, is the average rate of wages paid to labor in the City of Elizabeth for the same period. And following that are diagrams which show in a graphic way the variations in prices of materials during the period mentioned, up to April 19, 1921, in some cases and in some cases up to 1920.

Q. You carried your estimates down to 1921 though?

A. Yes.

Q. These tables stop along in the spring of 1920?

A. Yes.

Q. Had those lines been completed they would have been continued downward?

A. Those diagrams were made earlier and the blue prints were all made and we were expecting the case to come up before the Commission and they were never finished out. There would be some drop in some of those materials and in others there would not.

Q. (By Commissioner Treacy.) What materials are there on these blue prints that would not show a drop?

A. Cement held up practically to the same level up to the middle of the summer and it has fallen off very little since then.

Q. (By Commissioner Osborne.) You did not base your estimate on these unfinished diagrams I understand?

A. No. They are only to show the price trend. The estimates are based on the purchases down to January, 1921. That is, for the material.

Q. (By Mr. Wherry.) Now, Mr. Hill, after you got this figure of undepreciated value, then you deducted from that the depreciation?

A. Yes.

Q. Just state how you treated that depreciation. You have already stated it to some extent.

A. Before I go to the depreciation there is yet one item. Following page nine is table 7-B, the cost of items of the plant which are not used and useful and are deducted from the cost of reproduction new to get the cost of reproduction.

Q. You exclude them at that point?

A. Yes.

Q. Now, then, the next step was to apply the depreciation to the undepreciated cost of reproduction, and table No. 7 following page ten is a table corresponding to the undepreciated table but showing the depreciated value of the property as seen at the lower right hand corner of the last page of that table, $3,537,317. This makes the total depreciation, including the entire tangible property, amount to $648,176. That is the allowance for depreciation, and for used or useful tangible property, $607,016, and deducting the property that is

not used or useful, you have a net depreciated value as of January 1st, 1921, for the tangible property of $3,500,464.

Q. (By Commissioner Osborne.) Where does that appear?

A. That appears on page ten.

Q. (By Commissioner Treacy.) What is the amount of the superseded property or the obsolescent property, did you say? I mean the property that is no longer used or useful?

A. That is table seven-D, $36,853.

Q. What is the amount of depreciation other than that? That is six hundred and some odd thousand?

A. $$607,016.

Q. (By Mr. Wherry.) On table 7 where does that appear?

A. That does not appear. I took the total tangible property and estimated the cost of reproduction and then depreciated that and deducted the property that was not used or useful from both the gross cost of reproduction and the depreciated costs of reproduction, and if you would like to have those figures given in that form, I will set up a statement right now. The gross undepreciated cost of tangible property is $4,185,493, which less depreciation of $648,176, makes a depreciated value of tangible property, $3,537,317. Now, deducting $36,853 for property not used or useful you get as the reproduction value of the used and useful tangible property, $4,107,480, minus $607,016 depreciation, which makes $3,500,464, as the depreciated value of the tangible property.

Q. (By Commissioner Osborne.) I do not quite follow you beyond the point where you have given us the value of $3,537,317.

Commissioner Treacy—Deduct from that the $36,853 for property not used or useful.

Witness—The undepreciated value of the property deducted is $78,013. Now that will check up.

Q. The undepreciated value—

A. Of the property not used or useful. So if you will take $78,013 from $4,185,493, you get the cost of reproduction of used or useful tangible property, $4,107,480; and if you think the depreciated value of all property, $3,537,317 and deduct the present value of $36,853 from that figure you will net $3,500,464 as the depreciated value of all used or useful property.

Q. (By Commissioner Treacy.) I do not understand why you take in one case $78,000 and in the other $37,000.

A. In getting the undepreciated cost of reproduction we use the undepreciated value of the used or useful property.

Q. (By Commissioner Osborne.) Which method are you using? You do not use both methods, do you, in the same calculation?

A. I do not get that question.

Q. You do not use both sets of figures in the same calculation, do you?

A. Oh, no. The figure that is taken of the value of the property is a depreciated value, when we finally get to the figures.

Q. The first thing you do then is take your gross value. Then you deduct from that the property not used or useful?

A. Yes.

Q. You do not have to waste any time on that because you are going to take the whole thing out, aren't you?

A. No.

Q. What has depreciation got to do with property that is not going to figure in at all?

A. If it is fair to depreciate—

Q. No, but you take that out before you depreciate anything, you just said.

A. Well, you can do it either way.

Q. I do not care which way you do it, only let us have it one way or the other.

A. What we actually did was take the $4,185,493 and take $78,000 from it, and take the depreciation of $607,000 from that, and we get the $3,500,464, and it will give the answer either way. If you deduct the $78,000 first, then your depreciation is that much less on the remaining property.

Q. On the $78,000 it is how much?

A. $4,107,480.

Q. Now, what do you say the depreciation is?

A. $607,016. If you did it the other way you would get the same answer.

Q. I was following your figures in the first instance, and apparently, as far as I can see, you switched your methods so my calculation was wrong.

A. It will work out to the same answer either way you do it, but for the sake of uniformity in all the tables, we put the obsolete and unused property in, but it gives you the same answer. There was another reason for doing that. In pricing on the pre-war basis to check up the investment in the property and the book cost of the property, we wanted those items in because they spent their money for those as well as for the used and useful.

Q. (By Mr. Wherry.) Now, you have made a comparison of the various methods of your appraisal so as to ascertain what you thought would be the fair value in consideration of such prices, and you have tabulated that in this *Exhibit P-4?*

A. Yes.

Q. Now, will you please explain these tables which appear in the discussion against page 11, the tables following that? The number is table No. 4-F.

A. As I have already explained, I estimated the cost of this reproduction of this property based on ten-year average prices for labor and also on labor at 1918 rates. We then found the ratio between that basis of pricing and prices based on pre-war rates based on curb prices in 1920 and based on prices current April 1st, 1921, and that comparison is set up on table number 4-E,

which follows page eleven. In the first column will be found the same heading as are found in the table giving the cost of reproduction of the property new.

Q. As adopted by you?

A. As adopted. The second column gives the prices based on the 1919 valuation.

Q. And that is the prices you have?

A. That is the prices we have which are copied from the cost of reproduction. If, in lieu of that, we have taken the prices based on the prices current before the war, you would have gotten a ratio as shown in column three of eighty per cent. and the resulting value would have been as given in column 4—

Q. (By Commissioner Treacy.) I do not see any eighty per cent. there.

A. That is sixty-eight per cent. Now, those ratios, in this case, —

Q. (By Commissioner Osborne.) What number are you following?

A. 101.

Q. (By Mr. Hague.) Is this 4-E?

A. Yes. In that case, sixty-eight per cent. Now, these ratios were established in every case by taking for example, the joint ownership, cast-iron main which belongs to the Elizabethtown Water Company. The items which go into that are largely cast-iron pipe and labor, and we found out the percentage of each and we took the price on cast-iron pipe and the price current for labor during the periods being compared, and we found the weighted average ration between those two. That is, we got the averaeg ration and not the ratio of each to the other. That gave us in every case the ratio all the way through. In some items it might be brick, sand, cement, stone that was figured in getting the average ratio. We went through the same method in comparing the prices used in this valuation with the ten-year average prices for labor and materials from 1911 to 1920. That is, if this valuation had been made as of

January 1st, 1921, the ten-year average preceding that would have been 1911 to 1920.

Q. (By Mr. Wherry.) And it would have been 1.06 per cent. higher?

A. Yes. The base we use is almost equivalent to taking the ten-year average prices for the last ten years from 1911 to 1920, inclusive. The valuation based on prices current in 1920 would have been 1.78 higher than in the appraisal that we used; in other words, 78 per cent. higher than the base we used, and based upon prices current April 1st, 1921, would have been sixty-seven per cent. higher for that particular item. If you now look at the bottoms of these tables, you will see what the total average works out. Now, by referring to the next table, 4-F, you have a summarized comparison of the different bases of the valuation. If you look at 4-F, you will see a summary of values for the entire property. For instance, on the pre-war basis you would have sixty-eight per cent. of the value that I have obtained on the basis which I use.

Q. (By Commissioner Osborne.) Sixty-eight per cent. of the whole that is attributable to Elizabethtown Water Company?

A. This is on Elizabethtown alone.

Q. Sixty-eight per cent. of what?

A. Of the estimate which I use as my estimate of the fair value of the property.

Q. In other words, your estimate represents the difference between sixty-eight and one hundred higher than the pre-war prices from 1909 to 1914?

A. No. It would be nearer forty per cent. higher. And if you look at the bottom left-hand corner of table 4-F, you will see the prices used in the inventory which I have submitted and placed at one hundred per cent. I get my depreciated value of $3,500,464 in the lower right hand corner. Now, on the pre-war basis you would get sixty-eight per cent. or $2,380,316. If you look at (e), if it had been based on prices current on April 1st,

1921, you would have been sixty-seven per cent. higher than my estimate of $3,500,464, and the depreciation value of the property as of January 1st, 1921, $5,845,-775. If you base it on prices current in 1920 by that same process, you would have gotten a value as shown in column six of $6,230,826. If you had based it on tetn-year averages from 1911 to 1920 inclusive, or the ten years preceding the date of this valuation, you would have gotten $3,710,492.

Q. (By Mr. Wherry.) Or about the same?

A. About the same.

Q. (By Commissioner Osborne.) A ten-year average as between 1920 and 1921 would have given you approximately what you found?

A. Yes.

Mr. Wherry—How it that?

Commissioner Osborne—I say, a ten-year period prior to January 1st, 1921, would have given him approximately the value which he found.

Mr. Wherry—Yes.

By Commissioner Treacy.

Q. You took as your time for the figuring of your prices the prices for the year 1918?

A. No; I took for my materials ten-year average prices prior to 1918 and for the labor for 1918, current labor prices, up to January 1st, 1919, and I added the subsequent plant on the basis of the actual cost of the plant as shown by the books.

Q. (By Commissioner Osborne.) Why didn't you run your material prices down to the date of your computation?

A. I thought—

Q. The market was going down all the time, wasn't it, in 1918?

A. Do you mean as of to-day?

Q. To bring it down to January 1st, 1921.

A. If I had done that I would have gotten a very much higher figure and I did not think those prices represented the permanent set.

Q. You cut off the top of the peak on the theory they did not represent anything except a very temporary and abnormal condition?

A. Yes, sir. As this table shows in the last column, if I have used current prices I would have been from sixty-seven to seventy-eight per cent. higher on your valuation than the valuation which I have gotten.

Q. I did not mean current prices, I meant the ten-year average prior to January 1st, 1921.

A. Well, that is substantially the same, your Honor, as (d). If you look on the left-hand side you will see item (d). If you follow across there—not (d) but (c)—if you follow across you wil see the average 1911 to 1920. Now, 1912 to 1921 would not have affected it appreciably.

Q. Were not the prices going down from 1920 to 1921?

A. No, very slightly.

Q. (By Commissioner Treacy.) Do you mean the year 1920 when you say "1920 to 1921"?

A. Yes.

Q. (By Commissioner Osborne.) Does this 1920 include the year 1920 or to 1920?

A. Up to and including 1920. That gives $3,710,000 as compared with my estimate of $3,500,464.

Q. What did you take that labor item there for?

A. I figured the price of materials would possibly drop more rapidly than the price of labor. The 1919 prices of labor marked, as nearly as I can see, the extreme recession in the price of labor. In fact it has not gone as low as that now. The last issue of the Contractor's Magazine in New York City shows that the prices of nearly all labor are identical to-day as they were then. There have not been any reductions in labor except in certain communities for common labor, and even common labor in a great many cases cannot be

employed to-day for anything less than it was employed a year ago. There are contractors now who are paying as high as seven dollars a day for common labor, and the water companies with which I am connected can get no men for less than seventy cents an hour.

By Mr. Hague.

Q. What is the price of common labor in Elizabeth?

A. I do not know to-day.

Q. Do you know what the Bethlehem Shipbuilding Company is paying there to-day?

A. No, sir.

Q. Or the Standard Oil Company?

A. No.

Q. Have you made any inquiry?

A. Not right now, no; but if the Commission would like to have that information before them, I would be very glad to add some supplemental data with regard to the labor rates that have been brought down to the present time. With regard to these valuations, if you prepare a paper of this kind for testimony before a certain date and for some reason the case is postponed, if every time the case is postponed you bring it up to the very last day, it makes the expense so that it is really prohibitive. It would not affect the result at all, practically.

Q. (By Mr. Wherry.) It would make a very slight variation?

A. It makes practically no difference.

Commissioner Osborne—If the forecasts in the future for ten years are of any value, it ought not to affect it much?

Mr. Wherry—Not very much.

Q. (By Commissioner Treacy.) Why would not the fair way to value this property be to take the pre-war costs of reproduction of the property and add to it with the actual amounts paid for the cost of all additions since that time.

A. Because that is not in any sense representative of the value of the property.

Q. Why do you say that your method of a ten-year average with some prophetic visualization of a ten-year future period is a fair way to arrive at the value of the property?

A. I do not mean, sir, to assume the role of a prophet, but I think that generally it is understood and agreed that labor will never recede, or will not for a long time at least, recede to the point where it was prior to the war.

Q. Yet there are according to our United States statistics some six million people out of work in the United States, out of a population of 105,000,000.

A. Labor is in a condition to-day where a great many men rather than receive a reduction will stay out of work.

Q. Yes, but that cannot last for ten years.

A. Well, I hope the dull season does not last for ten years either, I do not believe it will.

Q. (By Commissioner Osborne.) Now, you admit that the war created abnormal conditions?

A. Yes.

Q. And violent fluctuations incident to that are in no way indicative of the true situation or previous value.

A. Absolutely.

Q. Why is not the suggestion of Commissioner Treacy that you take the prevailing prices over a period prior to the war, and fix the valuation on those prices when you have something definite, and do not have to introduce the speculative element, or the abnormal element of the war, and then add the actual cost from that time on—why do you say that does not represent true value? Assuming, of course, that your historical records are in such shape as to enable you to do that. You do not have to go back to 1914. In fact that is done in all cases where there was a valuation at that time, just as if we have a valuation now in the future that would be used as a basis and additions should be made to it.

Otherwise a company who happens to have its valuation made at this time has the advantage of the company that has not had it during the period of high prices.

A. If I am right, the question is whether you want to determine the value of the property or the investment in property. If you take the pre-war basis of prices on pre-war items at the actual cost of all items subsequently added, the probabilities are that you will come nearer to the investment in the property than in any other way.

Q. Don't you think the investment is really the soundest basis to use, because you then haven't something that is fluctuating all the time in it.

A. In every decision I have read the rule is that what the companies are entitled to is a fair return on the fair value of the property, and the courts have taken into consideration the price fluctuations from time to time, in determining the fair value, and I have only followed the rule as I have found it laid down by the courts. Now, I have eliminated the peak values because I think they reflect something abnormal, and I have by the same token tried to eliminate rock-bottom value because that is the pre-war basis, and while you may believe prices are going to approach in time to what they were on the pre-war basis, I do ont think anyone has the temerity to say that in the future prices are going to be less than they were before the war.

Q. (By Commissioner Treacy.) Are you familiar with the case cited by ex-Supreme Court Justice Hughes, which was referred to in the Brooklyn Borough Gas Company case, in which it was stated, as I recall, that in his opinion the fair way was to take the value of the property before the war and add to it the cost of improvements made since that time—if I state it correctly, Mr. Wherry.

Mr. Wherry—Well, it was substantially that.

Q. (By Mr. Wherry.) Mr. Hill, how about taxes? Do you think that taxes are going down and wages?

Mr. Hague—I object to that. There is no way of basing an opinion on what a man thinks of taxes.

Q. (By Commissioner Treacy.) I guess cost is the best basis of value to ascertain it, is it not?

A. Cost of value are not necessarily synonwmous, because cost is one of the indices of value and is one of the most readily accessible indices of value.

Q. Professor Cooley in the street railway case testified that way on the preliminary hearings held nearly two years ago, and in the later hearings, when he found that the war was driving prices up abnormally, he revised his opinion and said that the cost was the best way if it was normal times, but it was not the best way if it was abnormal times.

A. I think that is correct, and that is the reason I am not taking the reproduction peaks on the abnormal war prices.

Q. That being so, suppose instead of the abnormal prices being exceedingly high, they were exceedingly low. Would you follow the same reasoning out?

A. Absolutely. I would do what I am doing now. In other words, I would make a horizontal increase to meet the abnormal low as I am making a horizontal reduction now to meet an abnormal high. I think you have neither to take the peak or minimum, but take some fair figures between them.

Q. (By Commissioner Osborne.) Then it resolves itself into the question of your judgment as to how much of the peak you will eliminate.

A. Well, I think very nearly as the figures indicate, a cut through the middle which represents a permanent set of in the neighborhood of thirty to forty per cent.

Q. That is the reason I asked you what you thought of actual cost as the basis for value.

A. I think it is the cost exact index we have—

Q. And it is the most estable, is it not?

A. Usually, but it has to be used with discretion and judgment. You might have a property that on a cost basis was worth five million dollars and in the examination of that property you might find that it was overbuilt or unusually built or excessively built or deficient

in size, which would make the true value for the purpose for which it was designed, very much less than the cost. On the other hand, you might find a property which is admirably designed, well proportioned, doing what it is intended to do, and doing it economically, and if you disallow anything at all for efficiency or good design in estimating the value, you simply show that the property which was ill designed would be worth more than the property which was well designed, although the well-designed property may do better work than the other.

Q. Would you take into consideration, for instance, in depreciating property, the fact that costs were lower at the time you made your estimate than they were when the property was purchased?

Q. Do you think they ought to be charged with depreciation in fixing the value if the price trend had been up the other way?

A. I think what we ought to try to do is to establish a normal so there will not be these violent fluctuations. I am trying to reach for a level that is going to be as nearly as possible to the level of the future, which I, in my judgment, believe is going to be permanently higher than the level in the past, if not forever, for some years to come. The level should be made with that view.

Q. (By Mr. Wherry.) As a matter of fact, Mr. Hill, your practice has been to make fluctuation in the rate of return rather than in the rate base, has it not?

A. That is my idea of what should be done, not to make a fluctuation in the base, but in the rate of return, to meet the fluctuations in the value so that as times goes on, the very minute you establish a value for a property in a court or through a commission, which is less than the value of the property, you not only produce a rate which is insufficient for that company to accept, but you also take away the actual underlying value of the property of the public, because that goes on record that that is the value of the property, and being so it affects their opportunity of purchase and sale later on. You are hitting at the very essence of the propriety right in the

property. It is going to the verge of confiscation when for the purpose of saving in the rates you make the property's value too low.

Q. (By Commissioner Osborne.) Do you say the Maryland Commission does not do that?

A. No, I do not. I say my idea was to place a fair valuation on these properties, and a valuation which would not affect the ownership of the property and its future work for purchase and sale or make a difference in the rate of return.

Q. (By Mr. Wherry.) Mr. Hill, in using cost as an evidence of value for the period between the time of fixing the value and the date the property was bought first, do you think that cost is evidence of value as between—

A. Not in the least. Leaving aside the difficulty of securing true cost of the value of the property—for example, take a reservoir that was built in 1840 which is substantially as good to-day as in 1840, and probably it would cost three times to-day to build that it did in 1840, and it was functioning as good as ever and practically with no deterioration.

Q. (By Commissioner Treacy.) And do you suppose if the public have been receiving from that property a fair rate of return in all these years, wouldn't they have received their full value out of that property? Why should the property be increased in value in 1921, assuming they had been receiving a fair rate of return all the time on their estimate of the cost?

A. They do not receive a fair rate of return on the value of the property.

Q. They receive it on what they have put into it, don't they?

A. I cannot see that that is the problem. If the property depreciated, you are expected to lower the value at the time of the depreciation, as in this other case, as the property depreciates the company does not get the benefit of the depreciation.

Q. Do you find this property one hundred per cent. efficient as an operating proposition?

A. No.

Q. Any of these properties?

A. Well, the Raritan Township Company is a hundred per cent.

Q. I mean as an operating proposition?

A. Yes, the Raritan Township property is a hundred per cent. efficient.

Q. Did you find any depreciation in any of them?

A. Oh, yes.

Q. Did you deduct the depreciation?

A. Yes.

Q. Now it has been advanced here in other cases before this Board that if you had a property one hundred per cent. efficient in operation, that you must not deduct depreciation in order to arrive at the value of the property for rate-making purposes. I understand you have not followed that theory.

A. I finished reading a long article of forty pages, only night before last by one of the advocates of depreciation elimination and I do not agree with him in that at all.

Q. I am glad to find that there is an engineer who does not agree with that proposition, because it has been advanced here before this Board.

A. You cannot eliminate depreciation if you are consistent with showing the value. If it is investment you are looking for, depreciation has no place in it one way or the other, but as long as the courts say the value is to be determined, the depreciation certainly affects the value.

Q. But that theory has been advanced here notwithstanding the opinion of the United States Supreme Court in the Knoxville rate case and in the Minnesota rate case.

Q. (By Mr. Hague.) Mr. Hill, in the event of a material decrease in the value of the properties, or the articles that went into it, and the actual cost as known,

would you recommend a value on the property below the actual cost of production?

A. Absolutely, if there was a permanent set level reduction in prices. If you are consistent and are looking for value as the basis on which the rate must be determined, you would have to reduce the value of the property as against its costs in the same manner that you would if prices rise, and if you see there is going to be a permanent increase in the level of prices, you increase the prices.

Q. Then rate cases, I suppose, should follow the changes in the prices of commodities? In other words, if a rate was established in this case and three or four years from now it was found that the prices were down to about the time of the year 1892, then you would recommend that a new rate should be fixed upon the costs ascertained at that time, or covering an average period of about that time.

A. I would if the rates were the average. That is, if the average reduction in prices at that time was sufficiently great and sufficiently long to indicate a permanent set in the price level which would be lower, and the rule held that what the company was entitled to was a fair return on the fair value of the property. I should say that the base on which the rate was to be earned must be lowered then in the same manner as if you have a great convulsion such as we have had recently and there has been a period of four or five years of excessive prices, and the indications are that you are not going to return to that normal for a period of some years, and no one knows how long that is, only probably that there should be a reasonable allowance for that rate of interest.

Q. But to include the prices of 1918, that is purely speculative, is it not, there is nothing positive as to that price. There is nothing stable. The prices of 1918 were abnormally high, were they not?

A. 1918 was higher than 1914, not higher than 1921. But as I indicated in table 4-F, the pricing which I have

done is equivalent to taking the ten-year average prices for the last ten years.

Q. Don't you think that prices ranging from about 1905 to 1915 would be more apt to give you a more average price of what commodities would be rather than would the abnormal times of 1916 and—

A. Do you mean in the future?

Q. Yes.

A. No. I do not believe the prices will be down to the pre-war basis, certainly in the next five years and maybe longer.

Q. But the indications point to everything coming down, do they not, generally, in all commodities?

A. I cannot see it as some people see it. We have had reductions in certain lines. Cast iron has come down from $76 a ton to $42 a ton.

Q. The price of pig iron is down?

A. That is the reason the price of cast iron is down.

Q. Pig iron is down pretty near to its lowest point, is it not?

A. I don't know how near it has approached the lowest, but it has gone down some; very much indeed.

Q. And coke is down, isn't it?

A. Coke is down, yes.

Q. And these two commodities go into the making up of cast iron?

A. I have admitted that cast-iron pipe has gone down from $76 to $42 a ton.

Q. You mentioned the reservoirs that were built quite a number of years ago?

A. Those were not actual reservoirs. I was merely speaking of a hypothetical case.

Q. How long has the Piscataway Water Company been operated?

A. I will have to look that up for you. 1913 about.

Q. And that is practically a pipe line, isn't it?

A. The Piscataway Water Company consists of pumping station, driven wells and a pipe line.

Q. It has no consumers?

A. It has a few consumers.

Q. When were those pipes laid?

A. About the same time, from 1907 to 1913.

Q. You could ascertain the cost of the Piscataway Water Company, could you not; the actual cost?

A. No, I think not.

Q. Do the books of the company show what the cost of that was?

A. No; the records were not in shape to show the cost absolutely.

Mr. Wherry—May I go along with my examination, because as a matter of fact we use the same method for each company.

Commissioner Osborne—You may reserve the rest of this for your regular cross-examination.

Mr. Wherry—I would like to get my exhibits in if I may.

Mr. Hague—I think I better reserve it, probably.

Q. (By Mr. Wherry.) What you have given is your opinion of the fair value of this property as distinguished between costs and the fair present value as of this date?

A. Yes.

Q. And in finding it you find it in the way you supply it here, as being that which you think is going to be more or less permanent within the next few years.

A. Yes, and for the purpose of extablishing that fair value I have offered this *Exhibit 4-F* to the Commission, which shows the value of the property on the different price bases which might be selected.

Q. And which you use in forming your opinion as to what would be fair?

A. That is correct.

Q. Now, in addition to the tangible elements of the property, you have included in this sum you gave as fair value something for its intangible value, have you?

A. Yes.

Q. Is that explained in this *Exhibit 4?*

A. No, that is not explained, but you will find on page—

Q. Isn't it on page seventeen?

A. You will find it on page—

Q. (By Commissioner Osborne.) Did you use the earning capacity of the company, as the basis of the valuation?

A. No. That, I conceive, is working in a cycle. If you take it by that group, if the company was earning a fair return of fifty per cent. and you capitalized that fifty per cent., it would make the value of the company almost infant, and you have no basis of determining the fairness of the rate by an operation of that kind whatsoever.

Q. (By Mr. Wherry.) Does not this discussion of going cost commence on page 17 and end on page 18?

A. Yes.

Q. Now state what you did.

A. May I do one thing more, Mr. Wherry, so it is plain. This table 4-F gives the value of the property, as stated at the head, as of January 1st, 1919. Now, following page fifteen will be found a table giving the cost of reproduction of the property and plant brought up to January 1st, 1921. On the next table, 7-C, the property that was abandoned during the same period, and also table 7-D, of property abandoned during 1920.

Q. Well, those supplementary tables are made necessary because during the time you were making this appraisal there were delays, and you had to bring it up to date, were they not?

A. Yes. And on table 7-A it gives the value of the property and plant of the Elizabethtown Water Company as of January 1st, 1921. That is the depreciated present value with additions added since 1919 and property abandoned deducted, and with the depreciation which has accrued since January 1st, 1919, also deducted, and brings the valuation down to January 1st, 1921. That gives the value of the tangible property of $3,647,234.

Mr. Wherry—The explanation is that we started the value as of 1919 and had to bring it up to 1921.

Q. Now, will you state how you treated the intangible elements?

A. As an allowance for going cost or development cost, including all the other intangibles, and allowing ten per cent. of the tangible value of the property which made a total value, including tangibles and intangibles, of $4,081,730.

Q. (By Commissioner Treacy.) Where is that?

A. Page 18.

Q. (By Commissioner Osborne.) Then that is what you added for all intangibles, ten per cent.?

A. Yes, sir.

Q. Going value and cost of money and—

A. Yes, everything.

Q. (By Commissioner Treacy.) I suppose you itemized what you allowed?

A. I did not itemize it, sir.

Q. (By Mr. Wherry.) How did you get at that ten per cent.?

A. found in a number of cases in working up the development costs of properties of this kind that they nearly all incur losses at the early stages of their development. That is one development cost which is really strictly a part of the historical method of estimating value, but it may be through something else. It is the cost of attaching the business to the property. It represents all of the getting of the property organized, getting machinery upon it. It represents the losses in revenue when they are insufficient to pay the interest on the bonds—all of these instances which come in drawing any business together. I think a good word is the cost of attaching the business to the property.

Q. (By Commissioner Treacy.) How did you arrive at ten per cent.?

A. I base that on judgment and experience. I do not attempt to estimate the going value. There are various

formulas for estimating going value, and in making up a hypothetical estimate of a company starting with a plant as it exists to-day and another one starting with no plant, and assuming that they have the entire field to themselves, as this existing plant has, and estimating how long it would take to build that plant, and how long it would take to attach the business to the property up to the point when the—

Q. (By Commissioner Osborne.) How many years did you make the estimate?

A. I did not make the estimate. I have made dozens of these estimates and I have come to the conclusion that in addition to the value of the bare bones of the plant, as one of the eminent jurists put it, that a property has as a going concern an added additional value, and that there are costs which represent that added value and that is the cost of attaching the business to the property and its development.

Q. (By Mr. Wherry.) In other words, you used your own judgment on that rather than made a theoretical estimate on these methods such as the formulas used on other occasions?

A. Yes.

Q. And that is also based on calculations which you have made?

A. Yes, and on allowances which have been made in the past by courts and commissions.

Q. (By Commissioner Treacy.) It represents the losses which the company is supposed to have made, measured by the difference between what would be a fair rate of return and the actual rate which they are receiving.

A. Yes.

Q. That is to say engineers on the reproduction theory assume that a company has for a number of years lost money below what would be a fair rate of return and they allow as going value what in their judgment would be that sum.

A. That is true, but I have not limited myself to that theory. That is a method of arriving at the going value but I am speaking of something that is tangible and real, and that is the cost of attaching the business to the property. You cannot start a business up and expect a concern to earn a fair return right at the jump-off. There are always losses which are sustained, and it is that cost of attaching the business to the property which anybody would have to undergo. That is what I want to urge.

Q. (By Commissioner Osborne.) Is there any difference in the percentage used in all going water companies and other companies?

A. Well, I presume there would be, depending on the nature of the business. A water company would not be as high, possibly, as some other forms of utility, because as a rule water is more of a necessity.

Q. You do not have to work up business?

A. Not so much, no.

Q. (By Mr. Wherry.) Well, Mr. Hill, that addition for intangible value is a value, is it not?

A. Yes, that is a real element of the value of the plant.

Q. And it is the difference between the plant without the business attached and the plant with the business attached. Is that correct?

A. Yes. If this plant was in Elizabeth without a consumer on it and earning no revenue, it would certainly not be worth as much as the plant with the business attached.

Q. (By Commissioner Treacy.) Of course, if you have this plant in the City of Elizabeth as it is to-day, this plant as it is to-day, presupposes everything just as it is—that is, your reproduced plant.

A. Well, Commissioner, have you ever read the history of the New Orleans Water Works? There was the situation of some hundreds of thousands of people that never had a water works. They had a few names in the center of the city, but the rest of the population

obtained water from cisterns that ran from the roof, and the Mississippi River was so muddy nobody would take the water and the city of New Orleans built a complete water system as you would build a hypothetical plant in Newark to-day. They built a pumping station and a filter plant and put in the plant and it was ready and complete to supply the water for the community, and then they waited for consumers to come on, and I do not remember the exact figure, but you would think a city in a situation like New Orleans would have desired to have had water, but some people got the idea there were chemicals in the water and did not take the Mississippi water at all and retarded the growth and development of the business for years. So I think that would be a very intricate thing to look into.

Q. (By Commissioner Osborne.) The business had to be developed?

A. Yes.

Mr. Wherry—In the Hackensack case the Commission has an exhibit that shows exactly the period that it took and the estimate of the engineer in charge of what it cost to attach that business.

Mr. Hague—But that same rule would not apply to a small concern that had gradually built up, covering a period of fifty or sixty years, as you attempt to build up the New Orleans plant, would it?

Witness—I have one company now directly under my charge that has been in business for twenty years and has not to-day arrived at a point where it is paying a fair return on the fair value of the property and paying interest on its bonds.

Q. (By Mr. Hague.) Can you say that about the Elizabethtown Company?

A. No, sir.

Q. They have paid interest on their stocks and bonds?

A. Yes.

Commissioner Treacy—What are the amounts of securities of various kinds of the Elizabethtown Company.

Mr. Wherry—I am coming to that in one minute.

Q. (By Mr. Wherry.) In order to finish up with exhibit four, you used the same method exactly in valuing the Raritan, Watchung and Piscataway Water Companies?

A. Yes.

Q. And the amounts you gave in valuing those properties are based on the same method?

A. Absolutely.

Q. You did not use the cost in one case and the value in the other?

A. No.

Q. And you did not use 1921 prices in one and an average of ten years in the other?

A. No.

Q. There is one other table in exhibit four that will probably come into this case a little later. Haven't you included in it an estimate of the annual depreciation charges required by this company?

A. Yes. What table is that.

Q. I think it is 7-C, following that table on page 17, computation of annual depreciation, just before page 18. It is 7-F.

A. That table 7-F which immediately precedes page 18 simply shows the method used for computing the depreciation for the years 1919, 1920 and 1921 to show the deductions made from the appraisal.

Q. Does that also show what you do not include in the operating expenses for annual depreciation?

A. Yes.

Q. Now, after ascertaining the fair value of the property in order to get the net return, with the rate being produced to get the net return on that, what did you assume for a rate of fair return?

A. I assumed that to-day the company of the type and character of the Elizabethtown Water Company could not finance on the basis of less than eight per cent., taking the market rate on public utility securities and municipal securities and other securities. Taking into consideration the security investment and certainty of income.

Q. So if you had this amount of four million dollars in cash to invest in an enterprise at no greater risk you assume you could invest it at about eight per cent.?

A. Yes.

Q. (By Commissioner Treacy.) Couldn't you invest it to-day at less than eight per cent.?

A. I do not believe I could answer that question just that way, but I do think this: That a water works company to-day would find it very difficult if they had this four million dollars and it was to be refunded to-day, they would find it very difficult to finance on less than an eight per cent. basis. In the first place, no reliable bond house would take the bonds of this company if the bonds exceeded sixty per cent. of the value of the company. The remainder of them would have to be taken in stock. In the next place the company would have to be able to show that their operating expenses were and have been for some little time prior to the time of the financing, sufficient to yield at least twice the bond issue, which this company, I do not think, could do. Taking all the things under consideration, I do not think anyone to-day could get the necessary amount of capital, save upon an eight per cent. basis.

Q. Don't you think there is going to be the same proportion of fall in the price of money for utilities as for investments, if the price of call money is down to five and five and one-half per cent. as against eight, ten or twelve per cent., and the price of time money for three to six months is down to normal, practically? Don't you think we are fast approaching a normalcy in the cost of money for utilities, particularly water companies?

A. All of these water companies have been anticipating a fall, with the result that everyone of them has been running behind on earning a fair rate of return for the past several years, and they are all in a position where they find it exceedingly difficult to finance it. It is easy enough for this Commission at any time to reduce the rate of return. In fact, if I was running one of these companies, I would be glad to agree when I got in here that if the return exceeds a fair rate of return at any time, it should be reduced.

Q. It would be all right if everybody was willing to do that but I have not noticed anybody rushing in to tell us their rates were too high.

A. Do you know of any water company in the vicinity here that is earning anything like a fair rate of return on the fair value of the property? Even take those companies that have been before this Commission, like the Hackensack, Commonwealth, they are not earning a fair rate of return on the valuation of the Commission.

Q. It does seem to me in arriving at a fair rate of return for your utility at this date, you should consider what the price of money is at this instant when we are assured that the price of money has fallen, that it has fallen, as I say in that case, and when call money and time money and all money for investment perhaps in other industries—when we know that it is going to fall very shortly in the case of utilities, such as water companies and electric light companies.

A. Well, if you would like my idea, sir, I think that is one of the great difficulties that our public utilities are laboring under to-day. What the people of the communities want is service and service costs money, however it is administered. The only difference between a private utility and a municipally owned utility is one of the selection of the agents. A municipality has a right under the charter to supply the interests through municipal or private agents, and beyond that point the trouble is identically the same except for one

thing, and that is that the municipality has something that a public utility has not got, and that is they have the city's credit behind them. Now a municipally operated plant does not have to be financially sound to earn interest on its bonds, because at any time they want to finance they can levy upon the taxes and secure the money by the authority of the city to exercise its power of taxation and raise money in that way. Now a private utility cannot do that. They have to have the money to show the earning capacity to go out in the market and provide the service the community wants. All of the costs and everything else may be absolutely identical. Now the Commission anticipates that money is going to fall and on the strength of that, they give the utility a little lower rate of return than they otherwise would do. Money may not do that and the utility finds itself in a position where it is not earning a fair rate of return and they make an application for an increase in rates. The minute the company makes an application for an increase in rates, the municipalities make some objection to an increase of rates, not stopping to consider the situation is identically the same, and that their best interests are the best interests of the corporation supplying them. Your calendars are filled with cases and it is six or nine months go by and the utility does not get before you to get immediate relief. They want money to give service, to build new pumping stations and other things and they cannot finance it. As in the case of the Hackensack Company, the first of June they passed a dividend because of the various delays. Now that means that the utilities are forever behind on earning a fair return, and if the Board would allow a little more, there would never be any opposition from the municipalities when the reduction came. You could do as you did in the Commonwealth case, say, "Here, we will give you so much and if that exceeds eight per cent. or seven per cent., we will file an order that we will reduce it." I think the Maryland Commission did one of the wisest thinks in that connection that I have seen

done. They allowed the Baltimore County Company the fair value of the property which has enabled the company to do business properly, and they have told the company they would have to do business properly and adjust the revenues up and down according to the fluctuations in the cost of operation, and once every quarter the company files a report with the Commission and the Commission says the next succeeding quarter the discount should be so much.

Q. (By Mr. Wherry.) Were those the considerations that induced you to take eight per cent?

A. Yes.

Q. You got that fair value in order to establish that rate that had to cover this fair return and the operating costs, taxes, and the allowance for depreciation?

A. Yes.

Q. Have you prepared an exhibit which shows how you estimated those items?

A. Yes.

Mr. Wherry—I offer that in evidence.

(Marked *Exhibit P-5.*)

Q. (By Commissioner Treacy.) Did I understand you to say you could not arrive at the cost of this property?

A. No.

Q. What is this figure of $2,500,000 that you refer to on page 15? That is much less than the investment as referred to on the books. What does that mean?

A. When I found I could not secure the cost by the historical method upon the records of the company, I took an amount that was carried on the balance sheet of the company and in order to test that I made a reproduction estimate on the pre-war basis, and I found that from all the indications, the actual cost of the property was in the neighborhood of $2,500,000.

Q. That is what the company carries it at upon the books?

A. They carried it upon the books as two million dollars, but there is no allowance on the books for construction overhead.

Q. What is the record of this company as to returns in the past? Do you know? Have you studied that?

A. I can get you that data.

Q. I wish you would.

A. There is one thing I would like to say in this connection that their capitalization does not represent the cost of the property at all. There is some eight hundred thousand dollars—

Q. Do you know whether this figure of $2,805,000 includes any of the money spent out of earnings?

A. Yes. They only have a capitalization of one million, four hundred and ninety-six thousand dollars.

Q. (By Mr. Wherry.) Mr. Hill, the rate which the company has filed, will not produce the gross amount which you would have procured if you had taken the value that you have at eight per cent., and your estimate of expenses, would it?

A. No.

Commissioner Osborne—I understand the time expires on the first of October on this suspension. You stated when you opened this morning, in the colloquy that took place before the actual taking of testimony, that this company, while there was no permission, had voluntarily refrained from putting it into effect. We want to dispose of the matter as rapidly as possible and we want to know whether you will stipulate not to impose the new rate until the Board concludes this hearing.

Mr. Wherry—This company has six months billing and the period of six months from October 1st covers the first six months. The question of whether the Board could fix a retroactive rate came up and we sent out notices to the consumers that although the rate went into effect October 1st no bill would be rendered for the difference in rates, for such time earlier than six months for which the Board fixed the rate. For instance, if the Board says we are not entitled to the whole of it but to a portion of it—

Commissioner Treacy—Then there is no reason that we will not take a little more time than is allowed by the order?

Mr. Wherry—We have already notified our customers that we are not going to bill this until the Board has had an opportunity to close the hearings and fix the rate.

Commissioner Treacy—How could a stipulation affect you?

Mr. Wherry—Only on the question of retroaction.

Commissioner Treacy—If you are not going to put it into effect until the Board decides—

Mr. Wherry—It is in effect.

Commissioner Osborne—But will not be billed.

Mr. Wherry—It may not be billed for any more than the Board fixes.

Commissioner Osborne—So the rate will go into effect October 1st but you told your customers you would not send them a bill at that rate until the Board fixes a rate.

Mr. Wherry—Yes.

Commissioner Treacy—Suppose the Board does not decide to change the rate.

Mr. Wherry—Then we are in a position to review it as we would not be if we stipulated it.

Commissioner Treacy—Aren't you sending the bill for the increased rate?

Mr. Wherry—No, sending a bill at the old rate with a notice that the additional amount, if any, and whatever it will be, will be billed at the end of the period instead of in advance. If that is not satisfactory with the Board, I will take it up in the meantime.

Commissioner Osborne—The point is we have so many cases down between now and October that it is difficult to fix the date.

Mr. Hague—I would like to have an opportunity to get a copy of this testimony, and also in the event of our wanting to get an expert and fixing a date, I would like that it be placed two weeks off.

(After discussion.)

Commissioner Osborne—The matter will be adjourned to October 6th.

Mr. Wherry—If any of the municipalities desire to examine the books of the company, or the audit which we have made, and they will call us up, we will be ready for them. Or, if there is any information that they want for us to compile from the books, if they will let me know I will give it to them as soon as possible.

Commissioner Osborne—They will make these requests as early as possible so as not to make any unnecessary demands. It is our desire to finish this case quickly because the testimony is fresh in our minds.

Mr. Hague—The idea of going over some of this testimony and exhibits was to see if I could agree on the value of the real estate which might simplify the production of real estate experts.

Commissioner Osborne—Yes, it may save time to do that.

Q. (By Mr. Wherry.) How did you get at the operating expenses?

A. I had an audit of the company's books made to determine the actual operating expenses as shown on the table No. 50 of volume four, which is between pages one and two. That gives the revenue, operating expenses, depreciation, net earnings of the Elizabethtown Water Company from December 31, 1914, to the end of 1920.

Q. Well, does that include the water purchased in that?

A. That includes the water purchased. The details supporting that summary are given in tables 51 to 53.

It is shown on that table fifty that the operating expenses in the year 1920 included taxes and depreciation and amounted to $507,585.62, that the taxes amounted to $68,845.02 and the depreciation reserve $36,977.92, leaving $401,763,41 as the operating expenses excluding taxes and depreciation.

Q. Where is the table in which you estimated what the expenses with the rate—

A. That is the table to which I have referred. That forms the basis.

Q. Where is the estimate?

A. The method of making the estimate commences on the first paragraph of page two and the methods of computing operating expenses and taxes as required are carried on from there to the bottom of page six.

Q. And that also explains the item for taxes?

A. Yes, not only that but the modification in the operating expenses which was made, so that a fair return would be earned on the properties of the Piscataway, Watchung and Raritan Township Water Companies, with the allowances made for the increased costs of purchasing water from those companies.

Q. Now, turn to page seven, gross revenue required. There is where you have summarized what the company should have in the way of a gross income to give it eight per cent. return on the value estimated by you.

A. Yes.

Q. You put in operating expenses, $543,000, and two items of water purchased from affiliated companies and other operating expenses. Now, what is included in that water purchased from the affiliated companies?

A. That is the amount they gave those companies for supplying and transporting water to Elizabeth.

Q. Does that include the amount which the rates filed by those companies ought to produce?

A. That includes the amount which the rates filed by those companies ought to produce and not what was paid in the past. The amounts paid in the past are stated on page two.

Q. The Piscataway Water Company has filed a rate asking an additional charge to the Elizabethtown Company for the water furnished to it, and that rate is to cover a fair return on the part of the Piscataway property devoted to the business of the Elizabethtown Company?

A. That is true.

Q. And that would be included in the $182,000?

A. Yes.

Q. Now, the Watchung Company serves other customers than the Elizabethtown Company?

A. Yes.

Q. And you have to make a division there in that increase?

A. Yes, sir.

Q. Is that set out and explained in this exhibit?

A. That is set out and explained under the Watchung Water Company at—

Q. Following page 29.

A. The Watchung Water Company is shown by the division sheet following page 29. There will be found the whole discussion of the subdivision between the Elizabethtown Water Company and local consumers.

Q. And especially on page 35 under the head "Subdivision of your service revenue between local customers and the Elizabethtown Water Company?"

A. Yes.

Q. Now, the taxes, $214,000, are in excess of the taxes you paid last year?

A. Yes.

Q. Will you explain that?

A. Yes.

Q. (By Commissioner Osborne.) How much in excess?

Mr. Wherry—I do not know just how much it is. It appears here what the amount is, and there was a reason for having it made more than they paid last year, and I want to bring out the reason for it as briefly as possible.

A. The amount of the taxes as paid and as estimated is given on page four and shows in the first place the municipal, county and State property taxes have been increased for the reason that the experience of other water companies in the State has been that following an appraisal of this kind on the basis of the figures of the value of the property, the taxes immediately increased. That has been the experience with the Hackensack and other water companies.

Q. (By Commissioner Osborne.) That gives the tax assessor something tangible to work on.

A. Yes. I have assumed that the company would submit to taxation on the basis of the valuation made by this Commission and the Commission would estimate taxes on that basis, so that the company would not have to be back in a few weeks to make up the higher tax assessment. That was the same thing done in the Commonwealth case, and the Commonwealth agreed to pay taxes on that basis.

Q. What is the difference in the percentage of taxes, do you know?

A. In the Hackensack?

Q. In this company. The taxes have gone up. Do you know how much?

A. I do not know, but the municipal, county and State property taxes were $26,838 for the year 1920.

Mr. Betts—In the Hackensack case they raised from eighty to three hundred thousand.

Witness—They raised from $96,000 a year to $117,000 a quarter this year. For every dollar the company takes in this year substantially twenty-five cents goes back in the way of taxes.

Mr. Hague—Federal tax?

Mr. Wherry—No, sir. Municipal, county and State.

Q. (By Mr. Wherry.) Then you have calculated the taxes?

A. Yes, sir. In other words, owing to the difference in the revenues, we have revised the taxes according to the respective formulas.

Q. (By Commissioner Osborne.) You would have to estimate the Federal taxes on the basis of what you expected to get on this application?

A. Yes.

Q. (By Mr. Wherry.) Now, this depreciation reserve you have included on page seven is taken from that table I have already called your attention to on this preceding exhibit four, is it not?

A. Yes.

Q. Now, then, that total gross income that the company ought to have in order to get a net return of eight per cent. of its fair value, that is stated on page seven.

A. Yes.

Q. And that is one million one hundred thirty-seven thousand—

Commissioner Osborne—May I have a copy of this book?

Mr. Wherry—Yes. Page seven.

A. It is $1,137,987.

Q. Now, the revenue the company received in 1920 under the existing rate was $642,689, was it not?

A. Yes.

Q. So that the increase, in order to get the estimate you made to bring it to the net income of eight per cent. on that value would be 77 or nearly 78 per cent.

A. Yes.

Mr. Wherry—We are asking for fifty per cent.

Q. Now, do you know what the reason for the difference between seventy-seven per cent., which this seems to show you are entitled to, and the fifty per cent. they are asking for in the filed rate, what was the reason for that?

A. The rates which would be required by earning a fair return of eight per cent. on the fair value of the property caused such an increase that I recommended to the company that they take advantage of their capitali-

zation. They have at the present time $57,000 of four per cent. mortgage bonds and $981,520 capital stock, which I concluded nine per cent. would be a fair return on. That makes the total amount of interest evidenced on the existing capitalization $109,386.86, as compared with a net return of eight per cent. on a fair value of $326,400. I recommended that the rates be based on a net capitalization or amount necessary to meet their fiscal requirements rather than on an amount necessary to pay the fair return on the fair value of the property and the other items remain substantially the same, the operating expenses and taxes have to be modified slightly, and it makes quite a reduction in the amount needed.

Q. Now, following page seven of this exhibit five, you have a discussion of the subdivision of the rate between the different services, have you not?

A. Yes.

Q. Now, state briefly what the two different classes of service are and whether you recommended any change in that?

A. The first step in the subdivision of the rates as I have worked them out is the subdivision of the gross revenue between the service revenue and the miscellaneous receipts. Then the first step was to determine a fair average amount for the miscellaneous receipts and deduct that from the gross revenue required to obtain the revenue which would have to be secured from the rates. Having determined the amount of the revenue which would have to be acquired from the rates, I subdivided the gross service revenue between general water service revenue and fire service revenue. In other words, I determined how much the fire service revenue should produce and how much should be produced from the commercial, domestic and the other public users of water. Having found out the amount of the fire service revenue, I deducted that from the total service revenue to ascertain the amount from other than fire service revenue. Then that revenue was apportioned be-

tween the fixed service revenue and the proportionate service revnue. In this company it is unncessary to go further than the step that I just mentioned to determine the amount of revenue that should be obtained from fire service and general water service, for the reason they have a large number of consumers on flat rates, and I am frank to state that I am not able to formulate any scheme by which flat rate charges should be made, except they should be regulated so as to produce the gross revenue that should be required to come from the general water service revenue.

Q. (By Mr. Hague.) Do you think the flat rate should be charged to the municipality for fire service, or metered rate?

A. I think the fire service should be charged in this case the same as in the Hackensack, the Commonwealth and other cases, which have come before this Commission, namely, by making a flat charge for the hydrant which the company owns, to cover the cost of maintenance of the hydrant that the company maintains, where they do maintain them, and a further charge should be made on the inch-foot basis to produce the fire service revenue. A six-inch main has six-inch feet to the foot and an eight-inch main has eight-inch feet to the foot, and that means you are paying proportionately to the size of the main or mains which are extended to produce that fire service revenue.

Mr. Wherry—Now, if the Commission please, the rate as filed is simply a flat horizontal of fifty per cent. The reason we did not want to change it was because we did not see how we could make that additional change without asking for the full return, and we thought the municipalities might prefer to have it remain as it was.

Q. (By Commissioner Osborne.) Mr. Hill, you seem to be pretty familiar with the affairs of these companies. One of the complaints made is that the service is not metered completely.

A. In this company?

Q. Yes.

A. Yes.

Q. You have indicated a large amount of property that is not represented by any issue of stocks or bonds. Is there any reason why the bonds could not be sold or stock issued against that property and these meters bought and installed?

A. I think the controlling reason for that now is, your Honor, that the revenues of the company are hardly sufficient to take care of that extra capitalization. If the revenues were raised so as to give a fair return on additional capital, I should think it would be a very advisable thing for the company to make their capitalization commensurate with the value of the property rather than carry it as they are at the present time.

Q. Would the new proposed rate come anywhere near meeting that situation?

A. Yes.

Q. If this proposed rate were allowed, wouldn't it give a sufficient return on the securities issued or to be issued?

A. If the company expends its money for the capital improvements necessary to induct an additional supply of water into Elizabeth, they, of course, will save the moneys which they are now paying outside water companies for water purchase, and in making the improvement it would allow nothing for the future capital outlay. That is, I did not anticipate that the company would have to earn more to get new capital in, because I estimated that the saving in the demands for water used from other sources would, in large measure, take care of the capital improvements they would have to make, in order to bring the water in from the outside, and not only made an estimate on the basis of satisfying the physical requirements of the company, but a fair return on the fair value of the property.

Q. Well, there would be a saving, too, when they have metered these ten thousand and odd additional customers?

A. I have not gone into whether that will produce a saving or not.

Q. Don't your experience indicate anything to you in that line?

A. Well, it depends upon circumstances, in what State you find the plant. Usually, where the plant is—where it is necessary to make additional capital outlay to conserve the community, by putting some meters in, a large capital investment can be deferred and meters are economical if that is the situation. On the other hand, if the plant has just been rebuilt and enlarged and it has a surplus of capacity which is unused,—

Q. If the water is going to be used it does not make any difference whether you put in meters or not?

A. No, but the point I make in here is they are buying water from outside sources and so on. I am not prepared to say that the introduction of meters in this case—that the meters should be installed for the reason—I am not prepared to say that the introduction of those meters is going to defer these improvements for a very long time in this case. This company has been supplying about twenty million gallons. If the introduction of meters reduces the consumption three million, I do not think it would remove the necessity of preparing for an increased source of supply.

Mr. Wherry—I will submit an estimate with regard to that whole meter situation, before we close. We have those figures under compilation.

Commissioner Osborne—Is there anything else you wish to introduce this afternoon?

Mr. Hague—Not at this time. This witness will be here at the next meeting for cross-examination?

Commissioner Osborne—Mr. Hill, will you be here on the 6th of October?

Witness—Yes, sir.

(Adjourned until Thursday, October 6th, 1921, at Kinney Bldg., Newark, N. J., at 10:30 A. M.)

BOARD OF PUBLIC UTILITY COMMISSIONERS.
NEWARK, N. J., Thursday, October 6, 1921.

In the matter of the application of the Elizabethtown Water Company, Watchung Water Company, Piscataway Water Company and Raritan Township Water Company, increased rates.

Before Commissioner Harry V. Osborne, Esq.

For the Petitioners appears:
W. M. Wherry, Esq.
For the City of Elizabeth appears:
Joseph T. Hague, Esq.
For the Township appears:
John K. English, Esq.

Commissioner Osborne—Are you ready, Mr. Wherry, to go on?

Mr. Wherry—Yes, sir. Mr. Hill was on the stand for cross-examination.

Nicholas S. Hill, recalled on behalf of Petitioners.

Commissioner Osborne—Will you cross-examine, or Mr. Hague cross-examine?

Mr. English—Mr. Hague.

Commissioner Osborne—Will you cross-examine first, or Mr. English cross-examine first?

Mr. Hague—I am in the position that I have the assistance of Mr. Fuller, but I was unable to get him until yesterday. We are ready to go on with part of our cross-examination, but we would want a little further time, after we are through to-day. It probably would be as well for the others to go ahead, and then we will take up our cross-examination after, and if we do not finish to-day we will ask for further time to cross-examine Mr. Hill, if the Court will indulge me.

Commissioner Osborne—This adjournment was taken, as I recall it, in order to give you an opportunity to go over the direct examination and be prepared to cross-examine to-day. One thing that makes these cases very difficult are these breaks in the hearings; it not only delays the proceeding, but it makes it difficult for the Commissioners to carry it in their minds, when they have such a multiplicity of cases and each one of the larger cases is subdivided into many hearings; it is very difficult and confusing at times.

Mr. Hague—I might add that it is impossible for us to go on with the cross-examination without the assistance of a hydraulic engineer.

Commissioner Osborne—This direct examination was concluded some time ago.

Mr. Hague—I know it was, but I was unable to get in touch or get the services of Mr. Fuller until yesterday. I had to consult with the governing body of our city to find out; I have no authority to engage a man of that kind.

Commissioner Osborne—We will do the best we can and you will have to do the best you can. This thing happens right along. It is not just this case. It is the same thing over again; case after case; the cities are never ready to go on.

Mr. Hague—There is no intention on my part to prolong the hearing. The probabilities are that the questions that will be asked will consume the greater part of the day.

Mr. English—I represent Union Township. I have not an expert and do not expect to get any because I can not afford it, and I would just as leave ask him a few questions now as any time.

Commissioner Osborne—You may proceed with your cross-examination.

Cross-examination, by Mr. English.

Q. Mr. Hill, in making your calculation and report you used estimates only where accurate information was

not available as to the facts; is that true? I beg your pardon.

A. No, that is not correct. We made, as I testified, an estimate of the cost of the reproduction of the property on several price bases. We took the value of the plane as shown by the balance sheet of the company and checked that against the reproduction estimate based on pre-war prices, but in pricing the materials and labor which went into the plant, included in the estimates, we used prices which a material survey in Elizabeth showed were the prices prevailing for the period considered. That material survey included not only an investigation of prices paid by local contractors, but also an examination of the vouchers of the water company for the period under consideration, and also a study of the quoted prices as given in the trade journals.

Q. What is the object in making an estimate as to any cost where you have the available figures?

A. Well, there are several objects. In the first place, the figures are not available to find the actual cost. In the second place, even if the figures were apparently available from the records of a company as old as that, as the Elizabethtown Water Company, there is always liabilities to errors in the values carried on the books, because the obsolete, discarded property is frequently not marked off the books when it is discarded. There has, in the past, been utter failure on the part of most water companies, in fact, all that I have had anything to do with, to properly charge to the construction accounts, the overhead expenses, because very few water companies have in the past maintained any accurate system of charging construction costs to the job, but have absorbed them under broad classifications, which makes it almost impossible to determine what the actual cost of a given element is. Furthermore, the cost of a plant is not necessarily indicative of the value of the plant. As I testified, what I desired to do in this case, was to determine the fair value of the used and useful property, and in doing that I had to take into considera-

tion not only what the plant cost, but what it would cost to reproduce the plant at this day and date, and under conditions which are liable to maintain for a period of years to come.

Q. But in my question I did not refer to facts and figures which were not available, nor did I refer to facts and figures which were only apparently available, but to facts and figures which really were available. Why shouldn't you use facts and figures in all cases when they are available, instead of making estimates in such cases.

A. Well, we do use facts and figures when they are available, in an aid to determine value, but we do not necessarily—I do not necessarily take those figures as indicative of value.

Q. That is to say, if you get a fact or a figure as to the cost, you allow for depreciation or changed value for other reasons.

A. Yes.

Q. But you do take a fact and figure as true, instead of using an estimate, when you have such fact and figure?

A. We take them into consideration.

Q. You allow for going costs on the theory, do you not, that usually a company loses money while waiting for customers?

A. Yes, that is one of the losses.

Q. Is that the theory on which you allow a going cost, or is it on the theory that a new company which might purchase this company would lose money while waiting for customers?

A. The theory upon which I allow for the so-called intangible value of the property, which I think is a misnomer, is not based on the so-called going cost theory or the development cast theory either, but is based upon the usual fact that after a plant is built, the physical plant is built there is always required an expenditure of money to maintain and operate that plant while attaching the business to the plant, and that expenditure of money is as real and actual and as much a part of the development

of the plant as the money that is spent in the pipe, service connections, meters, pumps or other physical elements of the plant.

Q. I am not speaking, Mr. Hill, of intangible value. I am speaking of what you yourself called going cost in volue 3, page 18, of the exhibits; you refer to it as going cost. Is that going cost added on the theory that this company would lose money while waiting for business (in a layman's language), or is it based on the theory that any company which now purchases from this company would lose money while waiting for business; which of the two or both?

A. I have just explained that it is based on neither theory. I have used the words "going cost" because the term is an accepted term. There has been various differentiations between going cost and development cost. I really use the words "going cost" to cover the intangible value. The cost of attaching the business to the property is one of the elements. Another consideration which governs is that any buyer, willing buyer, would pay a willing seller more for a plant with an established business and an established income than they would for a plant devoid of the income earning power. If a prospective purchaser had the choice of purchasing two plants, one with its customers all connected and its revenues assured, and the other with nothing but the pipe lines and pumping stations and the potential ability to secure a revenue in the future after the business was developed, he would naturally take into consideration the cost of developing that business, or the losses which would be incurred during the period of development, and he would capitalize that for the purpose of determining the relative value of the two properties. I have taken that into consideration because it is an element of value. I think I have testified all through this case that what I was attempting to do was to ascertain value in accordance with the rulings of the courts, that what the property was entitled to earn upon was the fair value of the property used and useful for the purpose for which it was intended.

Q. Is your expression relating to the cost of attaching the business equivalent to the expression of losing money while waiting for business to come?

A. It is.

Q. They mean the same thing?

A. Yes.

Q. Then you add this going cost value on these two theories: First, on this theory of attaching the business, and, secondly, because it is worth more as a going concern than it otherwise would be?

A. Yes.

Q. And that a purchaser would pay more for it as a going concern?

A. Yes.

Q. Isn't it true that what a purchaser would pay for it as a going concern would depend almost wholly or to a large extent on what order this Board made in regard to the rate it should receive?

A. Well, under utility control, a property, if valued by a willing purchaser on the basis of capitalized earnings, would be limited in value to the amount which it could earn under the rates fixed by the Board, and in that way the earning capacity would affect the value.

Q. And if this Board ordered that it was proper that nine per cent. should be earned on the physical valuation, this going concern value would be very high, wouldn't it?

A. I do not approve of that method of evaluating a property. Personally, I feel that if there is no such law, that there should be a law prohibiting the exchange of properties, on a purchase and sale, on a capitalized earning basis, because it is simply building up values, may be building up values on fictitious earnings. That is not my idea of the intangible value of this property; capitalizing earnings. I have tried to explain that I had in mind to determine the value of the property, and in doing so I had to take into consideration a cost which every company experiences and which is as real a cost as the cost of developing the physical property.

Q. Then if you add going concern and do not consider that the prospective orders of this Board shall be taken into consideration, and if you do add going cost as you have just stated, because it really is a portion of the cost, isn't it true that that is added principally on the theory that it costs money to attach the business or to wait for customers?

A. Yes, I should say it was. It is principally to reflect an actual cost which all companies must undergo to a greater or less extent.

Q. Must presumably have undergone?

A. Yes.

Q. If you say in volume 3, page 18, that eight per cent. to ten per cent. of the gross cost of reproduction is a fair allowance for going cost, why did you allow the maximum of ten per cent.?

A. I did not say that was the maximum. I said that was a fair allowance.

Q. You misunderstood me. If you say that eight per cent. to ten per cent. is a fair allowance, why did you allow the ten per cent. instead of the eight per cent.?

A. Because I said that eight to ten per cent. was a fair allowance. There has been a great many cases in which as high as twenty per cent. has been allowed. But I assumed that eight to ten per cent. was a fair allowance.

Q. You distinctly say that eight to ten per cent. is a fair allowance. I asked you why you took ten per cent. in this case?

A. Because I thought that was fair and reasonable.

Q. Why isn't eight per cent. fair?

A. I won't dispute that eight per cent. might be a reasonable allowance.

Q. Is there any reason for taking the ten per cent. instead of the eight per cent.?

A. Not specifically. I think ten per cent. is fair.

Q. You have said that you made estimates only where you did not have actual facts. You have further said

that this ten per cent., which is the maximum of the fair allowance—

A. No, it is not the maximum.

Q. You said eight to ten per cent. was a fair allowance.

A. I said eight to ten per cent. was fair, either eight or ten per cent. was fair. I did not say it was the maximum. Don't misquote me.

Q. If you have said that you made estimates only in cases where you did not have the actual facts, why then do you add ten per cent. on the theory that it costs the company that much to acquire business, if you knew as a fact they did not have to wait for business at all?

A. I did not know the fact that it did not have to wait for business at all.

Q. Don't you know that this company was organized to supply water to a well settled community and was not obliged to wait for the development of the locality which it served?

A. No, I don't know that. I do not think that is correct, either. This company was formed a great many years ago, and whether you could say that Elizabeth at that time was a well developed community or not, I think is very doubtful.

Q. Don't you know that even on the other theory, that a new company would have to wait for business, it would not be just to add that percentage?

A. No. It would be absolutely just. No new company could go into Elizabeth to-day and build a plant de novo without incurring heavy losses before the revenues were equal—were sufficient to provide a fair return on the fair value of the property.

Q. Your estimate of value in your inventory price was as of January 1, 1919, was it not?

A. Originally, yes.

Q. Sir?

A. Originally, in the inventory, yes. I say, the original inventory was.

Q. I did not say inventory, I said estimate. Your estimate is of January, 1919, but your real true facts and figures are added to that afterward. Nothing after January 1, 1919, is an estimate, is it?

A. No.

Q. The rest is in the books?

A. Yes.

Q. And you have added to your estimate your real knowledge of the facts and brought it up to the 1st of January, 1921.

A. Yes.

Q. In table 4-F, item C is greater than F because in C the average price of labor for ten years was taken instead of the 1918 price for labor as in F, is that true?

A. Where is that table; can you give me the page?

Q. Page 13, opposite page 13 in volume 3.

A. Item C. What was the question?

Q. Suppose I read the question as I have it typewritten. Do you claim that in table 4-F, C is greater than F because in C the average price of labor for ten years was taken instead of the 1918 price of labor as in F?

A. Yes, that is one reason.

Q. What is the other?

A. Another reason is that the materials were somewhat higher in item C than in item F.

Q. Isn't it a fact that C is greater than F—isn't the fact that C is greater than F also due to the fact that in C the average cost of material for ten years prior to January, 1921, was taken, thus including three expensive years instead of only one expensive year, as in F?

A. Oh, certainly, that is the reason.

Q. That is, in C you have included for 1918, 1919 and 1920, whereas in F you have included only 1918 as an expensive year?

A. Yes.

Q. Why wasn't C based on the average cost of material for the ten years prior to 1918, so that a comparison with F might be made?

A. For the reason that I have wanted to ascertain a value of this property which would fairly reflect the permanent value for some years to come. In my judgment, the average price for material, whether you take the ten years prior to 1918 or the ten years prior to 1921, probably fairly reflect the permanent set in price level.

Q. You mean prior to 1919, don't you, instead of prior to 1918?

A. 1919, I mean, and 1921, and that is what we took in item F, the average of materials prior to 1919, for the ten years prior to 1919. When it came to the labor, we took the 1918 prices of labor, because I believe that the prices of labor will not in the near future fall below the 1918 labor prices.

Q. Do you mean to say that whether you took the average of prices for ten years prior to 1919, or whether you took such prices for ten years prior to 1921, either average would give you the fair prospective cost?

A. There would be very little difference, as is seen from this table. C is only six per cent. higher than F, and it is within the limits of estimating. You could not estimate more closely than that. In other words, this table shows very clearly that if you take a ten-year average prior to 1921, which has been a customary basis on which to evaluate these properties, a ten-year average price, you will get results that will be slightly higher than on the basis on which I have evaluated as shown in item F.

Q. C is higher than F for two reasons. How can you tell how much of the increase in C over F is due to one reason and how much is due to the other reason?

A. I only know that the price trend between 1918 and 1921 was slightly upward, in some instances materially upward, but as this table shows, it makes very little difference, within the limits of estimating.

Q. But if in C the price of material was based on the average of ten years prior to 1919, which you have just said would be practically the same as the ten years prior

to 1921, you could then have an accurate comparison with F, and you would know exactly why C was higher than F, wouldn't you?

A. Materials were used on the average price for ten years prior to 1919.

Q. In what?

A. In F.

Q. Yes, but not in C.

A. In C they were used on the ten-year average prior to 1921.

Q. Most assuredly.

A. That table shows that it makes very little difference. You have a difference of six per cent. in the final results, the difference between $3,500,466 and $3,710,492.

Q. But, Mr. Hill, it does not show any such thing, because C is greater than F, as you have said, for two entirely different reasons: one, because in C you have taken an average price for labor and in F you have taken the price of labor in one year; that is one difference; the other difference is that in C you have taken the average of material for a different ten years.

A. Yes.

Q. How can you tell how much of the difference between C and F is due to the first cause and how much is due to the second cause?

A. I don't want to.

Q. If you had in C taken the average of materials for the same ten years, and not another ten years, then you would know that the difference between C and F was due entirely to the difference in your calculation as to labor, wouldn't you?

A. I do not see that you would get anywhere if you did know. The final results speak for themselves. In this table the two methods of computation show a difference of six per cent. in the result; that is all, and this table shows that.

Q. If an average of ten years is a proper estimate of the materials in F, why did you take the wages of the highest, instead of taking an average?

A. I did not take the wages of the highest year.

Q. You took the wages of 1918?

A. Wages have gone up consistently. Wages are higher to-day than 1918.

Q. I am not talking about to-day. You took the average of materials up to January 1, 1919, that ten years. Your highest year was 1918, and you took the wages of 1918, which is the highest of those ten years.

A. It was not.

Q. Wasn't it?

A. Of those ten years?

Q. That is what I am speaking of; of those ten years.

A. I have explained that on three or four different occasions, and only a half minute ago. I am interested in ascertaining the fair value of this property. I wanted to ascertain a value which is not the value as of 1914, not necessarily the value of 1918, 1919 or during the peak of war prices, but a value which, as near as is humanly possible for one to do, will represent the value of this property for some years to come, so as to establish a stabilized fair base on which to place a rate of return, or, in other words, as nearly as it is humanly possible to do, to establish a value which would be the value were this appraisal being made, for instance, in 1930 where you had hindsight to go on and you took the average prices for ten years from 1920 to 1930; assuming that what this Commission wants is to establish a stabilized base. I took average prices of material from 1909 to 1918, inclusive, as representing in my judgment what would be the permanent set in price level on material. I also took the 1918 labor prices as being a conservative estimate of the permanent set in labor prices. Now, in order to test that conclusion of the fair basis on which to make this appraisal, I appraised the property on other bases so as to see where that fell in the scale. I appraised it on the pre-war basis, I appraised it as shown in A, I appraised it on the pre-war basis on all property included prior to 1914, plus the actual cost of additions since, as shown in B; I appraised it on the

ten-year average basis from 1911 to 1920, inclusive, as shown in C; on current prices as of 1920, which was the peak, and on current prices April 1st, 1921. Now, if you will turn to column six of those various estimates, you will see that the estimate of the resulting total value, gross depreciated value of the physical property is pretty nearly a mean; it is higher than the pre-war, because no one, I believe, to-day would say that prices are going to go back to the pre-war level in the near future, and on the other hand, it would be unfair to base the prices on the peak of the war prices. I think I have arrived at a very fair figure. It very closely corresponds to the ten-year average from 1911 to 1920; it takes in a period of low prices and a period of high prices.

Q. For how long a period do you expect your calculations to hold approximately good?

A. Well, I am only doing the best I can do in studying the price trend and the conditions, and I believe that the estimate which I have made will pretty fairly represent the value of this property for ten years to come, based on average prices for ten years to come.

Q. Then you think it is proper in making your prophecy for ten years to come to take the average prices of materials prior to January 1st, 1919?

A. No, that was only one means of arriving at the result. That is not the thing that governs in my final estimate entirely. In the final estimate of value which I have made, it is that estimate made on that basis, plus these other estimates, and a consideration of all the figures resulting from the various estimates as shown in column six of table 4-F, opposite page 13.

Q. (By Commissioner Osborne.) It is that upon which you base your judgment?

A. Yes.

Q. And the best you or anybody else can do, as I understand you, is to form a judgment based upon your experience?

A. Yes, sir.

Q. And the facts before you.

A. Yes.

Q. There is no foot-rule method of reaching the value?

A. There can be none.

Q. So nobody can say that a valuation made by another person is wrong, if it is within reason and based upon sound principles?

A. All you can do is to take the facts that are before you and attempt to draw a fair conclusion.

Q. And if you had sufficient experience and have sufficient judgment and all the facts, your judgment, your estimate of value is just as good as the next man's?

A. Yes.

Q. (By Mr. English.) Isn't it true that in table 4-F, items A, B, C, D, and E are only used to prove that probably F is correct?

A. That probably what?

Q. That probably F is correct?

A. Well, I would not say that. I have not approached this problem from that viewpoint. I have not made an estimate and then attempted to prove it was correct. I do not think that is the way a man that is called into a case of this kind would naturally go into the problem. I am not trying to prove an inflated value or a deflated value. I am trying to arrive at something that is fair and will give this company sufficient revenue to enable it to finance and proceed with the improvements and developments that are necessary to give the people of the district which it serves the service which it wants; that is all.

Q. Isn't that the reason for making out all these books and exhibits, to prove to someone who understands the subject that probably you are correct?

A. No, that is not the object. The object is to furnish to the engineers of the Public Utility Commission the basis and the data on which I have reached the conclusion I have reached, so they can fully review the matter and report to the Commission, give them the basis on which my determinations have been reached, to

enable them to see how much confidence to put in the testimony which I give in this case.

Q. And that means to find out whether the probability is that you are correct or incorrect, isn't it?

A. No, it is not.

Q. Just exactly that.

A. It is not exactly that. I make a distinction.

Q. In this table I have spoken of, are these other figures, other than F, used in your final result?

A. My results are based, as I tell you, on the valuation of $3,500,464, plus the intangible value, because after reviewing the entire situation and making comparisons I have reached the conclusion that that fairly represents a price level and a valuation on a price level which will hold in the reasonable future.

Q. Then you do not use the items under the other letters in that table at all except for methods of comparison?

A. It is used for comparison to check the figure obtained in my appraisal.

Q. And they are to show that if you took the prewar prices, the gross depreciated value would be less, and if you took the present prices they would be more, and if you took certain other prices they would be less or more, as the case might be?

A. Yes.

Q. But you use none of them in your calculation of F, except F, do you?

A. Yes, they are used in every part as the basis on which I fixed my valuation of the property.

Q. But after you get F in column six, you follow that forward mathematically, without using the other figures, don't you?

A. No, not at all.

Q. Then why do you call it the price used in the inventory?

A. Because I priced the inventory on that basis prior to making the comparison.

Q. Do you think as a matter of fact that the cost of labor in 1918 will about equal the average cost of labor for the next ten years?

A. Only because it brings about a permanent set which I think is a fair one and which has been recognized by a number of courts and commissions in this country. Only recently a decision handed down by the United States Circuit Court in the case of the Galveston Street Railways allowed thirty-three per cent. as the fair allowance for the permanent set in the price level.

Q. As a matter of fact the cost of either labor or material in 1918 was very much greater than the average cost of either labor or material for ten years prior to 1919, wasn't it?

A. Oh, yes; oh, yes.

Q. Isn't it true that usually materials decrease in cost when wages do, and materials increase when wages do?

A. Well, generally speaking, that is so, although that is not an accurate statement. The prices of some materials have decreased notwithstanding advances in labor. In other cases the prices of materials, certain materials, have increased very much more rapidly than the advance in labor because of the growing scarcity of the particular material. All things being equal, the element of labor is one of the costs of producing the finished material, and, depending upon the amount of labor involved in producing the finished product, the cost of material is affected by the price of labor.

Q. In your opinion, about what proportion of the cost of materials used by the Elizabethtown Water Company is made up of wages in the various stages of manufacture?

A. That I could not say.

Q. Starting with the iron in the ground, I mean, and with the growing tree.

A. I haven't the slightest idea.

Q. Have you any doubt that labor would be anything less than eighty per cent. of the cost of the material?

A. I would not venture an opinion. I should think though—I would say this: I would be willing to say

Q. After you get the inventory, you go forward with the rest of your calculation based on that figure, don't you?

A. Yes. There is another factor that entered into these comparisons. It was the original intention, when this appraisal was made for this company, to come before this Commission on an application for rates shortly subsequent to 1918. There were delays and between 1918 and 1921 there was quite a change in price levels and the whole basis of estimating was altered, and it became necessary to go back, after I had made my original computations, to determine what effect these changes and alterations would have on the general situation. This comparison was also made for the purpose of bringing this up to date and seeing whether those original appraisals were reasonable and could be applied in this case.

Q. Then in making your inventory you took the average price of materials for ten years prior to 1919?

A. Yes.

Q. As indicative of what such prices would be on the average for the next ten years?

A. Yes.

Q. In arriving at your inventory likewise you took the cost of labor as it was in 1918 as indicative of what the average cost of labor would be for the next ten years?

A. Only after comparing the gross result as shown in column six of table 4-F, with estimates based on other price levels, for the purpose of seeing about where the estimate based on the figures which you have named would come in relation to these other figures.

Q. Do you think as a matter of fact that the average cost of materials for ten years prior to 1919 will be the average cost of materials the next ten years?

A. I will answer that question in this way: This brings about a permanent set, would indicate a set of from thirty to thirty-five per cent., and I believe that there will be a permanent set in prices of at least that amount.

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that I think it would be considerably less, but I would not venture an opinion.

Q. If the cost of labor is going to stay for ten years at what it was in 1918 and a large part of material is made up by the cost of labor, isn't it likely there would be a corresponding increase in the cost of materials?

A. No. I am governed more by price trends than by an estimate of that kind.

Q. Don't you know that it is usually estimated that of the cost of lumber, starting with the growing tree, eighty-five per cent. consists of labor?

A. No, I don't know that.

Q. In table No. 5, in the column labeled "contingencies, errors and omissions," what does the word "contingencies" mean?

A. It means unforeseen and unexpected difficulties that may arise in any piece of constructive work. "Contingencies, errors and omissions" is a blanket term.

Q. I was going to ask you that afterwards. What does "errors" mean?

A. "Errors" include, in a piece of new construction, the additional cost due to mistakes in the original plans, where changes have to be made and alterations have to be made in order to overcome those errors, or in a reproduction estimate it would cover the omissions and mistakes and failure to cover the plant completely, which is usually the case. It is seldom that a reproduction estimate covers all the items of expense which go into a plant.

Q. Do you in omissions and errors refer to the mistake of a workman to follow the plan of an architect, or do you refer to possible errors of your own subordinates?

A. Why, in a reproduction estimate, that term "contingencies, errors and omissions" would be a blanket term to cover the omissions and failures to include all of the costs that were involved. For instance, you go out and you make a reproduction estimate of a dam, and in that estimate you reproduce a dam on unit prices

which are current, which you think are fair. In 99 cases out of a 100 no attempt is made to make any allowance for these items of cost which are always incurred in actual construction by reason of contingencies and by reason of errors in the plan, changes which have to be made, and omissions in the plan. You estimate it as a straight thing, because you have it before you and you can see it. Therefore, reproduction estimates are almost always less than it will actually cost to build. I presume in a great majority of cases an estimate of the construction cost of any particular structure is far more often less than it is more.

Q. Mr. Hill, I do not understand it yet, and I tried to make it very simple, so a child could understand it. Do you mean by "errors and omissions," not "contingencies," but errors and omissions, the cost of an error of a workman in not following the architect in rebuilding this plant, or do you refer to some error that you or your subordinates may have made in your calculation? They are two entirely different things.

A. I presume it would cover both.

Q. On the theory that the contingencies relate to a possible error of a workman, why do you add contingencies for work that is already finished?

A. I don't know that I stated that I did.

Q. This work is already finished and you have added contingencies. Why did you?

A. There are certain terms which have become universal in use, and one of them is "contingencies, errors and omissions." It is an item which every engineer and every man who is familiar with construction work realizes is a part of the cost of construction. Now, if one of those elements, for instance, contingencies, is eliminated in a reproduction estimate, of course, contingencies would not be included; you would only have errors and omissions.

Q. I did not understand that.

A. I say, if contingencies were not included, were not a part of a reproduction estimate, it would not be

included, but as I tried to explain to you just now—you may have felt that you made it perfectly clear, your question, but it is not a question that can be disposed of quite so easily—as I tried to explain to you, when you make a reproduction estimate you are apt, and almost universally do fail to estimate the contingencies, which involve actual cost in the actual construction of a structure, because you were not there to see what the contingencies were. You make a straight estimate of what it would cost to reproduce it, assuming that everythings would go smoothly; in the case of a dam, that you would not get floods which would come down and wash out the false work and mean reconstruction; no accidents or anything of that kind. This is added just as it would be added to the actual costs of the construction of a dam.

Q. A contractor in estimating and bidding on a job always allows for contingencies, doesn't he?

A. Yes.

Q. If you were advising such contractor, would you allow the same percentage for contingencies as you would allow in estimating the value of a completed job?

A. Well, I don't know that I can answer that question in a blanket way. I can say this: If I had before me a fair figure—I won't put it that way. If I had before me the actual cost of a dam, for example, or the contractor's bid on a dam, or rather the final estimate on a d ambuilt on a market which would be fairly representative of value, and I were making a reproduction estimate of the cost of the property, I would take that final cost estimate as the best estimate that I could get of the value of that dam, and I would allow nothing for contingencies, errors and omissions. On the other hand, if the cost data evolved were not in such shape that I could obtain data of that kind, and I had to make a reproduction estimate, I would add contingencies, errors and omissions in the same manner as I would in advising a contractor as to the proper allowance for con-

tingencies, errors and omissions in the case of a new structure, substantially the same.

Q. (By Commissioner Osborne.) Let me see if I understand you. If you knew the absolute facts on a completed job and knew there were no contingencies, errors and omissions, you would not add any.

A. Or if they had been covered in the final estimate.

Q. Then you would not add any?

A. No.

Q. But if you were advising a contractor—as counsel has put it—on a prospective job, or if you were valuing a completed job without the exact data before you, you would add a given amount, depending upon the character of the work, for contingencies, errors and omissions?

A. Yes.

Q. Because your experience as an engineer has taught you that always there are certain contingencies, errors and omissions that are involved—

A. Yes.

Q. And must be reckoned with?

A. Yes.

Q. And are part of the cost?

A. Yes.

Q. And that a certain arbitrary figure will, generally speaking, cover those contingencies, errors and omissions.

A. Yes.

Q. And it is that figure which you adopt?

A. Yes.

Q. (By Mr. English.) Now, when the contractor estimates, he wants a certain profit, and he adds ten per cent. for his contingencies and the contingencies do not occur, he makes his regular profit and ten per cent., doesn't he?

A. Yes.

Q. Would you estimate the value of that work, the cost thereof plus the profit that he would be satisfied with, plus another ten per cent. that he expected to lose?

A. I cannot answer that question because it does not fit the conditions at all. All of these estimates are based on the law of averages, and on the average a contractor won't perform a piece of work without some contingencies, errors and omissions.

Q. (By Commissioner Osborne.) You mean he won't or can not?

A. He can not.

Q. (By Mr. English.) Have you finished?

A. Yes.

Q. If the words errors or omissions relate to possible errors or omissions of your own subordinates, isn't it just as likely that some amount ought to be subtracted instead of that it should be added to your estimate?

A. Why, yes; I think there is a liability at times to over-estimate, as there may be a liability to under-estimate.

Q. Are these possible errors of your subordinates, that you speak of, errors in figures or errors in judgment?

A. They may be both.

Q. Isn't it just as likely that the cause of their error in judgment or their error in figures, to get at the true facts we ought to subtract instead of add?

A. No, never.

Q. Why?

A. I do not want to express it as a percentage, but I think it is common knowledge to anyone who has had any construction experience, that preliminary estimates or even estimates of reproduction are uniformly lower than actual cost, almost always, in the great majority of construction work.

Q. (By Commissioner Osborne.) Have you finished your answer?

A. Yes, sir.

Q. These errors and omissions, the amount allowed for errors and omissions would depend upon an accuracy, extent, and detail of the data that you have to work from.

A. That is precisely so. In a company where cost records have been definitely and accurately kept that allowance would not be so great as in a company where their records had not been properly kept.

Q. If you had an inventory before you that was an inventory in great detail, that would mean a less allowance for that item?

A. Yes.

Q. (By Mr. English.) Do you mean to say that one of your loyal employees in making an estimate for the Elizabethtown Water Company, knowing that the higher the value the better for the company, that that employee would be more likely to underestimate than over-estimate? I am speaking of an honest man, of course.

A. Now, is that a fair question?

Q. I understood you to say that that was the case?

A. Is that a fair question?

Q. I think it is, yes.

A. Well, I do not. I do not think you have any right to ask questions which impute motives. I am simply here trying to give my evidence; that is all.

Q. I take issue with you, sir, and I say it is a fair question.

Commissioner Osborne—Well, I overrule the question.

Q. In table No. 5, how do you arrive at interest during construction? That is column 9.

A. Interest during construction is usually arrived at by making a fair assumption as to the period of time which would be required to reproduce the plant and property of the company under consideration. Then a program is laid out for providing capital during that period, it being assumed that a certain amount of capital will be provided initially and more securities will be sold from time to time to provide capital as the construction work increases, and up to the time when the property is completed as a whole, and interest is figured on the securities during that construction period from the date

at which they are issued, and the total amount of interest paid on that basis, determined on that basis, is figured as a percentage of the total cost of the plant.

Q. Why do you estimate in that column twelve per cent. as interest during construction on real estate purchases?

A. Because in most of these—in most water works properties it is necessary to secure water works, water rights and real estates necessary to construction work well in advance, and in order to acquire that property at a reasonable price, the purchases usually are concealed, and lots are bought piecemeal one by one and carried—in some companies I have known real estate to be carried ten and eleven years before they could assemble all the property that was necessary to a particular development. Therefore, the interest on the real estate portion of the plant begins much earlier, and therefore lasts much longer than the interest on the other portions of the plant.

Q. Do you mean to say that with proper financing, on the average, money used to purchase real estate would have to lie idle two years at six per cent.?

A. Very often more.

Q. What do you mean by "investment value?"

A. By investment value I mean the value as represented by the amount of money which has actually been placed in the property, including the proceeds from the sale of stock, proceeds from the sale of bonds, proceeds from the sale of notes, or revenues which have been converted to capital outlay and not used in the payment of dividends or interest.

Q. Why do you say that in order to sell in the open market at par the stock of the Elizabethtown Water Company would need to pay nine per cent. dividends?

A. Because I believe that for a year or more past and at the present day with the market for securities as it is the Elizabethtown Water Company could not sell its stock at par yielding a return of less than nine per cent.

Q. Isn't a seven per cent. dividend, assured to be paid

by the orders of the Utility Board, just as secure as an ordinary seven per cent. bond?

A. Why, I don't know of any case where a utility board has ordered a company to pay a seven per cent. dividend. I do not think they ever do that.

Q. I do not mean ordered to pay a dividend, but isn't a seven per cent. dividend, which is practically assured because of an income allowed or to be allowed by a utility board, just as secure as a seven per cent. bond?

Commissioner Osborne—I am afraid you cannot get the utilities of to-day to agree to that proposition. That is the reason we are so busy; that is what they are complaining of all the time; that we do not allow them enough to have some reasonable assurance.

Mr. English—They are objecting, you say?

Commissioner Osborne—That is the reason we are so busy, because they are all coming in here and asking for an increase in rates in order to enable them to do what you say they are assured of doing. Your question assumes a fact which may or not be a fact. If he can answer it, however, I have no objection.

Witness—Your Honor, if I did not have to answer it, I would rather not, because it involves—

Commissioner Osborne—I think it presupposes a condition which it is doubtful whether it will exist.

Mr. English—I see your point.

Commissioner Osborne—That particular question, I mean. I find no fault with your line of inquiry. They say now, if they were not restricted by a utility commission they could go out and do the very thing that you assume in your question that they are doing.

Q. Then your theory that a seven per cent. dividend paid by the water company is not as good as a seven per cent. bond, is based on the assumption that the

Board will not allow a rate sufficient to pay a seven per cent. dividend, is it?

A. No, I would not say that. My statement does not warrant the conclusion which you have drawn. I simply make the statement that to issue stock at this time at par it would be necessary to procure a return of nine per cent. on that stock.

Q. (By Commissioner Osborne.) You say you cannot market utility securities, utility bonds, for less than nine per cent. on the market to-day?

A. No. Speaking of the stock.

Q. (By Mr. English.) Do you think the fact that the total of the stock and bonds is much below the value would make any difference in regard to your opinion in that regard?

A. No, I don't think it would.

Q. The value of the stock is based on two things; first, the assets, and second, the probable order of this Board, isn't it?

A. If you will pardon me, I would like to say why I feel that. This company—any company—must earn a fair return on the fair value. Its earnings must be a certain amount. Of course the fact that it is way undercapitalized on the basis of fair earnings adds to the equity which each share of stock represents, and therefore adds to the security of the investment, and the smaller the number of shares of stock the smaller the number over which the net earnings have to be distributed, but that is not applicable in a case of this kind. This company is saturated, it has gone out and bought water from various sources, and it is face to face with the proposition of large capital expenditures and refinancing. Under those conditions the underlying securities on the property are very rapidly going to approach the underlying values, and those questions are going to be looked into by any banking interest or syndicate which would underwrite the securities. Therefore, I feel that they would require that these securities would yield just as much as any other reasonably good security

in the market, and stock of a company of this kind today cannot be marketed for less than nine per cent.

Q. But if you did not fear possible action or non-action by this Board and felt assured that seven per cent. dividends would not be interfered with, then, with all these tremendous assets behind it, wouldn't this stock paying seven per cent. be as good as a seven per cent. bond?

A. No, I think not.

Q. Why not?

A. Because the bonds are a primary lien on the property, and the stock in any corporation only takes what is left over after the bonds are taken care of.

Q. Yes, but when so very much is left over, isn't the stock better than some bonds, the total of which are very near to the value of the securities?

A. I do not hesitate to say that the stock of some companies is better than the bonds of others. That is very general.

Q. Is there the slightest doubt that there are sufficient assets of this company to very much more than pay both the stock and bonds?

Mr. Wherry—I object to the question as being irrelevant here. Do you mean the actual stock and bonds outstanding against this company?

Commissioner Osborne—Is there anything in the evidence to indicate that this witness has any knowledge of the actual stock and bonds outstanding?

Mr. English—He has testified to it, put it in his exhibits.

Commissioner Osborne—The question is whether the valuation which he places upon it equals the total issue of stock and bonds. That is a mere matter of calculation, isn't it?

(Question read.)

Commissioner Osborne—Of course, I do not think the witness should be compelled to answer

that question because it would all depend upon the circumstances under which the liquidation was made. If the company went into the hands of a receiver and it was liquidated by a receiver, it might be one thing; they they found a willing purchaser, it might be another; if they found a municipality that desired to operate a municipal plant, it might be another. That question pre-supposes a knowledge on the part of the witness of the circumstances connected with the liquidation, and I do not think it is necessary to this inquiry in any event.

Mr. English—All right, sir. I thought a rather liberal allowance would be made in cross-examination, because you see they put their testimony in in printed form that took weeks to get up. I did not think we would be held down so strict in cross-examination.

Commissioner Osborne—That is not so strict. Don't you see yourself that the answer won't mean anything?

Mr. English—I bow to your Honor's ruling.

Commissioner Osborne—It would only be a guess on his part. All he can say, is apparently, from his judgment of the assets of the Company, it would more than equal the stock and bonds.

Mr. English—The question was not asked to elicit that fact. The question was asked to show a lack of logic in a former reply. That was the object of the question. However, we will pass on.

Q. Are your calculations based upon the theory that dividends of nine per cent. ought to be paid on the capital stock?

Mr. Wherry—I object to that question, as to going into the question of financial policy here. That is not involved in this testimony.

(Question read.)

Commissioner Osborne—There is an objection to that question. I think that is a proper question. The question is, what has influenced his mind, in other words, whether in reaching his conclusion, which he himself says is not by any foot rule or arbitrary basis, is not reached by any foot rule or arbitrary basis, but which is merely a matter of judgment. This question goes to determine whether his judgment was in any way influenced by the earning capacity of the company.

Mr. Wherry—That is not exactly the point of my objection. Of course, this question of fair return has two aspects. The first aspect is: The company is entitled to earn net earnings which are measured by what it could get if it made an investment in the market equal to the fair value of the property; what would be the fair yield that it could get from such an investment at no greater risk than the business that that capital is now embarked in. The other aspect of it is the question of what the company ought to earn in order to do its financing, which involves the question of a financial plan. Of course, Mr. Hill's testimony has touched on both of those aspects of it, but he is dealing with the amount of earnings that the company should have and not the question of how that earning should be paid, that is, whether it should be paid out, actually paid out in dividends. If the company has got to earn on its stock at least nine per cent. dividends, it may not be the policy of the company to pay it. This question as it reads is: does he think that the company ought to pay nine per cent. dividends? Now, if he is asked if he thinks it ought to earn nine per cent. dividends, nine per cent. for its dividends—

Commissioner Osborne—I do not so interpret the question. If the question is susceptible of a

dual interpretation, we will have it reframed. I do not understand the question to mean what you say it means.

Mr. Wherry—If the question is going to the question of the earnings of the company, I have no objection, but if it is going to a financial plan, then I object.

Commissioner Osborne—I understood the question to go the witness's basis for his appraisal. I may be wrong.

Mr. English—Exactly so.

Commissioner Osborne—If it be susceptible to a dual meaning we can reframe it.

(Question read.)

Commissioner Osborne—You see, counsel objected because you say "ought to be paid."

Mr. English—I would like to speak on the question. This testimony was put in by this witness in an extraordinary manner, and because of his reputation and that of his attorney and client, no objection was made, but it was put in in printing, four volumes. It would be impossible for counsel on the other side to look at each sentence as it was read off, and object. Now, I claim, the testimony being in and we having been allowed time to read it over, we can cross-examine on any statement he made either orally or in writing.

Commissioner Osborne— Yes. That is not the question that we are now called upon to determine. We are now called upon to determine just what your question means.

Mr. English—I want to show your Honor that this is cross-examination on his statement.

Commissioner Osborne—I do not say it is not. I do not say your question is not a perfectly proper question, except as to the possibility of the construction of it.

Mr. Wherry—I only want to get it clear as to what it means.

Commissioner Osborne—Counsel says he does not mean what you, Mr. Wherry, take the question to mean. He says it relates to the mental processes of the witness in reaching his conclusion as to the value.

Mr. English—Entirely so.

Mr. Wherry—I have no objection to that. My only objection was that it was directed to the policy of the company.

Commissioner Osborne—He says that is not so. So you can answer the question.

Mr. English—I want to find out how the witness reasoned.

Commissioner Osborne—That is the way I understood.

Mr. Wherry—I do not very often make objections, but it just puzzled me a little bit, the way that question was put.

Commissioner Osborne—The word "ought" is the word that raised the doubt in your mind.

(Question read.)

Mr. English—Suppose we insert after the word "ought" the words "to be able to."

(Question read as follows: Are your calculations based upon the theory that dividends of nine per cent. ought to be able to be paid on the capital stock.)

Witness—If I may be allowed to modify that question just a bit, my estimate of the fair return—not my calculations, but my estimate of the fair return on this property, which should be allowed, is based upon my belief that this company could not issue bonds at less than a seven per cent. basis at this time, and probably not that (I think that is very conservative) and the stock at a nine per cent. basis.

Q. Bonds at how much; eight per cent, or seven per cent.?

A. Seven per cent. for bonds.

Q. Stock at nine?

A. Stock at nine. That seven per cent. I consider very conservative on the bonds I consider nine per cent. conservative on the stock, on the present market.

Mr. Wherry—May it please the Commission, I understand the question was directed to his estimate of the value of the property and not to the part of his testimony that related to fair return. The answer it seems to me is directed to the part of his testimony bearing on fair return.

Commissioner Osborne—As I interpreted his answer, having in mind the purport of the question as finally clarified by counsel, I took his answer to mean that he did have in mind, in fixing the valuation, the fact that the company ought to be able to earn seven per cent. on its bonds and nine per cent. on its stock. I also thereby understood him, at least to some extent, to contradict his previous statement to the effect that he had not taken into consideration the earning capacity of the company in fixing this valuation. I assume counsel will straighten out that apparent contradiction, of course.

Witness—May I explain that? There are two steps in this thing. The question of fair return does not enter into the valuation. The first thing I did was to determine the fair value for the purpose of determining the base on which a fair return should be earned, in other words, the fair value on which the fair return should be earned. That is done with. The next step is to estimate the gross revenue which is going to be required in order to yield that fair return on the fair value. The elements that go to make up that gross revenue are first, the fair return on the fair value. In order to fix upon a fair return upon the fair value, I have assumed that eight per cent. on the present market would be reasonable, and I have assumed in reaching that,

that seven per cent. bonds and nine per cent. stock would be as well as the company could float securities for at this time, and also that no trustworthy bond house or trust company would take the bonds of this company in excess of sixty per cent. possibly of the fair value of the property as determined by this Commission, and the remaining forty per cent. would have to be put out as stock. Having determined that fair return I have added to that the probable operating expenses, the probable taxes, the probable reserve for depreciation, the sum of which goes to make, for your information, the gross revenue which is necessary to yield that fair return on the fair value. So when they ask me if I base my calculations on the nine per cent. dividend on the stock, it is misleading, because I have only used that in relation to the fair return; it is only one element.

Q. (By Commissioner Osborne.) In other words, you only consider the return in connection with the gross revenue to be earned.

A. Yes.

Q. But not in connection with the value which you have determined?

A. Yes.

Q. You determined your value first, independent of the return; then in determining your gross revenue to be earned, you considered what you think would be a fair return?

A. Yes.

Q. (By Mr. English.) In making your calculation, did you consider that the debt of the company would remain at $515,000 or would increase?

Mr. Wherry—I object to that question unless it is clear as to what calculations he is referring to.

Mr. English—Calculations as to what would be a fair rate of return.

A. I did not make any assumption as to that.

Q. Sir.

A. I made no assumption as to that. It did not enter into my computation at all.

Q. In arriving at your opinion as to what is a fair return, does it make any difference what the ratio of debt to physical assets is?

A. Why, yes. Naturally a company which is overcapitalized, the securities of a company which is overcapitalized are not as valuable as those of a company which is undercapitalized. But I would like to add here, that the first thing that the Elizabethtown Water Company should do, when the Commission fixes upon the fair valuation of this property, in my judgment, is, to make its securities correspond with the valuation placed upon it. In other words, they ought to capitalize the revenues which they put into the plant, and that is the only basis on which you can consider this proposition. I feel that what they have got now in the way of bonds and stocks is irrelevant and immaterial. What they have got to do is to put their house in order, when the Commission finishes with it, and have securities which are in consonance with the value of the property.

Q. I was referring not to the ratio of indebtedness to stock, but the ratio of indebtedness to value, physical value.

A. I have just said, if a company is overcapitalized the securities are worth less than a company which is undercapitalized.

Q. That is not what I am trying to get at. Don't you realize that an eight per cent. return on physical value is allowed on the theory that money costs seven per cent., and money did cost seven per cent., then if the debt was ninety per cent. of the physical value, the company would make eight per cent. on its equity and nine per cent. additional, making seventeen per cent.

A. I realize perfectly that if a company is capitalized for fifty per cent. of it fair value, and in order to build up an equity which is one hundred per cent. in excess of its capitalization, it has in years past denied itself divi-

dends and placed its earnings into plant—there are two places that a company can derive money to place in plant, and that is from the sale of securities, or else from earnings—if that is so, then it is perfectly true that if they earn a fair return on the fair value, eight per cent., and the securities are only fifty per cent., they are going to earn sixteen per cent. on the securities, but that is neither here nor there. The question is what is the fair return on the fair value of the property.

Q. What do you mean by "on the nominal capitalization"?

A. I mean on the nominal capitalization.

Mr. Wherry—On their present actual capitalization?

Witness—On their present actual capitalization.

Mr. English—That is not my point at all; has not anything to do with it.

Q. Don't you realize this: That if eight per cent. of the physical value, irrespective of the stock issues is allowed, and it costs seven per cent. to borrow money, the bigger the debt the better for the owners of the stock?

Commissioner Osborne—In other words, they make one per cent.

Mr. English—They will make the extra one per cent. on the portion that is represented by debt. If you borrow ninety per cent. of it, you make an extra nine per cent., which is added to your eight per cent. is seventeen per cent., not on stock, but on value. Isn't that true?

Witness—I want to get that again. I don't exactly catch your idea.

Q. Suppose there was a little company and the physical value of the assets, tangible assets, was $100,000, and they were allowed to make ten per cent. on that $100,000.

A. Yes.

Q. They borrowed ninety thousand dollars and they really owned only ten thousand dollars of the assets,

and they borrowed that ninety thousand dollars at seven per cent. Wouldn't they make the difference between eight and seven on the ninety thousand dollars?

A. Oh, absolutely.

Q. Which, added to their eight per cent. on what we commonly call the equity, would make seventeen per cent. on what they own?

A. Absolutely.

Q. Then how, in arriving at an opinion as to what is a fair rate, can you form any judgment, unless you know what the debt is expected to be?

A. In my judgment, that has absolutely no bearing on this question. There are certain rules laid down for the capitalization of these companies by responsible bond houses and banks. One of the rules is, for example, that the gross earnings shall be at least twice the bond interest. Another rule is, that the bonds shall not exceed—it varies slightly with different houses, but, generally speaking, shall not exceed sixty per cent. of what we now term the fair value of the property, or as it used to be called, the physical assets. That means that in financing a property of this kind you have got pretty close limits. Most properties will issue bonds up to the limit and make their equity as small as it is reasonable for them to make it. But that really is besides the question. The question is: What is a fair rate of return on money in the market to-day. In other words, what could the owners of this property, if they had the fair value of this property in money and not in this property, invest that money at and what rate; I mean, at what rate of return could they invest that money. That is the real problem here. That is what I tried to arrive at. I have considered the possible issue of securities of this company, that they would have a certain amount of bonds and a certain amount of stock, which is one of the things relating to the question. But in the final issue it is; what could the owners of this property reasonably expect as a fair rate of return if they had the money, the cash. in lieu of this property?

Q. The word "fair" relates to ethics, doesn't it? What is right?

A. Well, I suppose equity, rather than ethics.

Q. Why is it right that they should make eight per cent.? Isn't it solely on the theory that unrestricted business in these times ordinarily can make eight per cent.?

A. Not unrestricted business. I am speaking of public utilities.

Q. Isn't that the theory on which public utility commissions allow eight per cent., because you can make eight per cent. with your money in another business?

A. No, that is not the theory. To-day, if you look over the public utility securities that are offered—and it is to be presumed that these companies are endeavoring to finance with the lowest possible rate of return—you will find public utility securities in plenty which are yielding eight per cent. In other words, it is the market value of money to-day which governs the rate of return.

Q. You fixed eight per cent. because you thought that is what Boards allowed other utilities, is that it?

A. It is what other utilities can secure money for at this day. This company is face to face with the proposition of securing additional money, and unless they are in a position to earn an amount to enable them to pay as much as other public utilities, with due consideration for the security of the investment and the certainty of income, they are not going to be able to finance unless they are allowed that rate.

Q. Then you think if a company has $100,000 of assets and is not able to borrow anything, eight per cent. is all it ought to be allowed?

A. Yes.

Q. And if it can borrow $90,000 its stockholders ought to make seventeen per cent. on the worth of the property.

A. That is a hypothetical case. I have just said you can not borrow ninety per cent.

Q. Let us suppose sixty per cent. Do you think they ought to get more for their money than people that can not borrow?

A. If this company goes out, after this case is tried, and finances for one per cent., two per cent., or three per cent. less, the company files reports with this Commission showing exactly what their earnings are, and the Commission has at all times control of the revenues and income of this property. It will be a very simple matter for the Commission, if they do better in the financing than they anticipate, to reduce the rates from time to time or at any time that it is expedient to do it, and there won't be much opposition from the communities to a reduction in rate; it will be a very much less costly proceeding than increasing the rate if the allowance is too small.

Q. Have you figured what nine per cent. on the capital stock would be?

A. No, I have not figured it in dollars and cents.

Q. It would be $78,336, wouldn't it? Have you figured what seven per cent. on the present debt would be?

A. Of bonds, you mean?

Q. Yes.

Commissioner Osborne—Has that anything to do with the question at issue here?

Mr. Wherry—I don't see it, but I am not making an objection.

Mr. English—I want to show what the figures would be if such a rate were allowed as to allow the company to pay nine per cent., on the theory that the witness says the company must pay nine per cent. if it is going to borrow money, and it cannot extend its service unless it borrows money.

Commissioner Osborne—What you are asking him to do is to make a calculation for you.

Mr. English—Sir?

Commissioner Osborne—You are asking him to make a mathematical calculation. You want

to know what seven per cent. on this stock amounts to.

Mr. English—If he will take my calculation I am satisfied. I do not want him to dispute my figures. Then I want to refer to a table.

Commissioner Osborne—Just assume that your calculation is correct.

Mr. English—And then ask the next question?

Commissioner Osborne—Yes.

Q. Will you turn to volume 4, page 7, Mr. Hill? If nine per cent. on the capital stock added to seven per cent. on the debt makes $104,386.80, then shouldn't such sum be substituted on that page for you $326,400, if nine per cent. dividends were to be paid by the company?

A. Upon what theory?

Q. Upon the theory that it would be just to allow the company sufficient to pay nine per cent. dividend and seven per cent. interest.

A. No.

Q. Why not?

A. Because that would not be a fair return on the fair value of the property.

Q. I say, if the order were to be that a sufficient rate were to be allowed so that the company would be able to pay a nine per cent. dividend, then that should be the substitution on that page and your calculation would be correct, wouldn't it?

A. I do not think I can answer that question.

Q. You neither deny or affirm?

A. No.

Q. The appraising of this property required very many intricate calculations and in addition to that required the exercise of judgment as to values, didn't it?

A. It entails estimates and judgment.

Q. Was the judgment exercised in all of these appraisals, your own judgment or that of a subordinate.

A. The judgment exercised was mine.

Q. Did you rely, in rendering your final judgment, on the judgment of any one else in regard to any detail?

A. I think I am making a truthful statement to say that the exercise of judgment was mine. In other words, the collection of the data and the collection of information, the details, were in the hands of my assistants, but when that information was brought in and it came to a question of selecting the unit prices or the method of appraising, or the amount of depreciation, the judgment exercised was mine. These factors were applied only after I had gone over the situation with whoever had the work in charge.

Q. How did you arrive at the unit prices; through your own judgment, or that of some one else?

A. The unit prices were arrived at, as I have testified, by a canvass of the local market.

Q. Made by your subordinates?

A. The canvass was made by my representative. I did not personally go into the field and interview every contractor and secure these prices.

Q. You saw all the properties of course?

A. Went over all the properties. I was in the field with the men from time to time while they were working, and I had been familiar with the property before; it was not new.

Q. About how much of your own personal time did you spend on this?

A. I could not say off-hand, but I spent days on it, weeks.

Mr. English—I would like to say to this witness, before he leaves the stand, that in my earlier question I meant no slur upon his profession. It seemed to me the question was correct, because I believe that all persons are governed by human nature. I have no other questions. I wanted to know whether his subordinates were not governed by human nature.

Commissioner Osborne—He is asked what his subordinates are governed by. The vice of

the question was its form, not of your inquiry but the particular form of that particular question. You asked him to characterize the mental processes of his subordinates.

Mr. Wherry—I think what Mr. English probably was trying to arrive at was this: He wanted to know whether in Mr. Hill's experience, a man who was making an estimate, when employed to make an estimate for a company, was not likely to overestimate rather than underestimate and whether he had taken that into consideration. I would not have any objection if he asked that kind of a question and asked whether he had taken that into consideration.

Commissioner Osborne—It was the form of the question that was in my mind when I overruled it.

Mr. English—May I explain that I do not think even your Honor or counsel are exactly correct in the reason for the question. I would not ask this witness whether in his opinion his subordinates were of such a nature that they were like the rest of us and might sway toward their clients, but he had already said that they were more likely to underestimate than to overestimate, and my question was: Do you really think under those circumstances what you said can be true.

Commissioner Osborne—Counsel withdraws his objection and says you may answer the question.

Mr. Wherry—You may answer that question, Mr. Hill.

Q. Do you really believe that your subordinates, in making estimates of the value of this water company, intending to be honest and being honest, would be more likely to overestimate in value than to underestimate?

A. Well, I presume that they would be more liable to overestimate than underestimate.

Q. (By Mr. Wherry.) Did you take that into consideration in making up your allowances for errors, omissions and contingencies?

A. All I can say to that question, Mr. Wherry, is, I think that any—I am perfectly frank to state to this Commission or anybody else, that any one, however much they may endeavor, and however much they may try to be fair, if they are on one side of the case or the other, it is human nature for them to regard the side of the case on which they are employed. I do endeavor in my work to discard that and dismiss it as far as it is possible to do it. I do not think that is pertinent with regard to omissions, errors and contingencies. When I made the statement that you are more liable to underestimate than overestimate, I was not referring to the human element in this thing at all. I was simply making the statement that the tendency of all estimators is to omit things that do come up, and it is the almost universal history of all construction work—take the New York City water plant; they started out with an estimate that it was going to cost one hundred and some odd millions; the same work when they got through with it cost two hundred and twenty-five or two hundred and thirty millions, and you can go through construction work the world over and you will find that is the history, that allowance for errors, omissions and contingencies is not enough as a rule.

Q. (By Commissioner Osborne.) You try to be careful and put everything in and not omit anything?

A. Yes.

Q. If there was any doubt about it you either put it in or took care of it in your errors, contingencies and omissions?

A. Yes.

Q. Did you make this valuation for the purpose of testifying here or for the purpose of the company generally?

A. I made this valuation for the purpose of testifying in this case.

Mr. English—I am through.

By Mr. Hague (cross-examination).

Q. On page one of *Exhibit 4* you have defined fair value, have you not?

A. In volume 3 on what page?

Q. Page one, *Exhibit 4*, not volume four.

Mr. Wherry—That is volume 3, isn't it?

Mr. Hague—Yes, that is volume 3, *Exhibit 4*.

Witness—I thought that is where it was.

Q. Did you answer the question?

A. I did not get the question.

Q. (Question read.)

A. Yes.

Q. Is your fair value synonymous with market value, that is, does it represent your opinion of the value which an intelligent and willing buyer would pay to an intelligent and willing seller for the property?

A. No, not necessarily.

Q. In what way does it differ?

A. I make no distinction whatsoever between fair value for the purpose of purchase and sale or fair value for rate-making purposes or fair value for taxation. I do not believe that there can be one value for this thing, one value for that thing and one value for the other thing, and in that far this fair value would represent the value as between a willing seller and a willing purchaser, but what I mean to indicate was that it would not necessarily be the price that the property might bring in the market; that is all.

Q. What would you call market value?

A. I would call market value the value which an article or a property of a similar kind which fixes or establishes the value therefor. As a matter of fact, a public utility corporation under public utility control, and exercising a monopoly, it is pretty difficult to say

what is the market value of that property, because there is no precedent to go by.

Q. Then the fair value that you have fixed is not the value that you would expect it to bring if sold?

A. No. This fair value is not necessarily in this case what this property would bring if put upon the market to-day at forced sale.

Q. What would it be if it was put on the market at any time?

A. You cannot suppose it being put on the market except at forced sale, and in view of the present conditions surrounding this property, I doubt very much—

Q. What is it you mean by "intrinsic worth"; fair value is the intrinsic worth?

A. I mean just what I say. I mean the intrinsic worth or the real equivalent of the thing. I don't know whether I can go any further than that.

Q. Isn't the equivalent of a thing what it will sell for?

A. No. I regard that as this: The equivalent in this case I believe would be the worth—let me see how I can put that. In that definition I presume that I mean to say that what I am attempting to determine is the money equivalent for the value of this property.

Q. What value; for what it would sell for?

A. The fair value.

Q. The fair value for what purpose?

A. There is but one fair value, whether it is for the purpose of purchase and sale—

Q. For the purpose of sale?

A. Any purpose. There is but one fair value, in my judgment. There can be no three or four different values.

Q. Then where would it differ from market value?

A. I said, I do not believe this property has a market value; I do not think so.

Q. Then why isn't it what it will sell for?

A. I do not know what it will sell for and I do not care what it would sell for.

Q. Why isn't the fair value what it will sell for?

A. Because you have got to have, as defined by the courts, a condition where there is a willing purchaser and willing seller. Now, we have no willing purchaser or willing seller in this case.

Q. If such a thing existed, what is the difference?

A. If such a thing existed, and this was brought forth as a matter of equity to determine what was fair value between a willing seller and willing purchaser—brought before this Commission, for example—I would say the value of this property for purchase and sale was identical with the value which I placed upon it for rate-making purposes.

Q. Then you did not mean what you said in the first instance?

A. I meant precisely what I said.

Q. I beg your pardon.

A. I meant precisely what I said.

Q. Your first answer to that question was not what you said in your last?

A. Yes.

Q. Have you in any way considered the earning capacity of this plant in the past in fixing on this value?

A. No, I have not gone into the earning capacity in the past. I have gone into it a few years back, but not in its early history.

Q. Isn't that one of the things which should be taken into consideration?

A. If you can determine what was the earning capacity from the beginning?

Q. Didn't you find out what the earnings of this company had been in the past, in your investigation?

A. The information is not available.

Q. Then you were not interested in that part of it, in fixing the value, at all?

A. I have frequently used the earning capacity in the past as a means of determining what the probable development cost of the property has been, but in this case we did not have the available information.

Q. It would not make any difference to you in fixing the value, what the earning capacity had been in the past?

A. Not in the least.

Q. Of this particular property?

A. Not in the least, except in so far as it affects the cost of development; no other way.

Q. Wouldn't that have any affect upon the sale value of the property?

A. I presume that in a transfer between private interests possibly the earning capacity of the plant, the fact of the earning capacity of the plant would affect the judgment of the purchaser as to what its value was, but I do not believe that has any place here. That is another form of capitalizing earnings, which is against all public utility policy.

Q. Do you know for what the stock and bonds of this company have sold for in the past?

A. No, I have not gone into that.

Q. Would that make any difference in the value of the property?

A. Not a particle, in this valuation of mine.

Q. Isn't that usually taken into consideration in fixing the value of the property?

A. Not in determining the fair value of the property for rate-making purposes or for the determination of fair value for purchase and sale before a commission. It is against all the theory of public utility commission control.

Q. What about market value?

A. The same is true of market value.

Q. Then I understand from you that you mean to say that the value of the stock and bonds has no effect whatever on the market value?

A. No, I have not said that.

Q. I understood you to say so.

Commissioner Osborne—You mean, in his judgment.

Mr. Hague—In his judgment.

Commissioner Osborne—It did not affect his judgment. That was not your question.

(Question read.)

Commissioner Osborne—That question does not mean anything.

Mr. Hague—The witness just testified—

Commissioner Osborne—I know he did. That is no reason why this question should not be intelligible.

Witness—That question does not mean a thing, your Honor.

Q. You have stated that fair value and market value are the same, have you not?

A. No, I have not stated that fair value and market value are necessarily the same.

Q. Is there any difference between fair value and market value, in your opinion?

A. There may, under certain conditions, be very great differences between market value and fair value.

Q. What are those differences?

A. I do not pretend to enumerate all of them. It is obvious that the fair value of a thing is not always its market value. That is true of any element, any item.

Q. Is fair value the same as the value between a willing buyer and willing seller?

Commissioner Osborne—Haven't we been all over that? You are starting right in where you began before.

Mr. Hague—I am of the opinion that the witness has answered this that they were both the same. Now, he said a moment ago that it was not.

Commissioner Osborne—I thought you had covered all this ground in the early part of your cross-examination.

Mr. Hague—I thought I had, too. As I understood the witness from the record he had said they were the same. I won't press the question further.

Q. Did you value this property in this case as you would value another kind of property?

A. I cannot answer that question. What kind of property?

Q. Take for instance, a manufacturing plant. Did you value it the same as you would value that?

A. Well, that would depend upon circumstances.

Q. Did you?

A. The valuation of this plant has nothing whatever to do with the valuation of a manufacturing plant, nor is there anything in the record to show that I ever valued a manufacturing plant.

Q. I have not said you did. I am asking, did you value this the same as you would value another kind of property, and I refer to a manufacturing plant.

A. I say, that would depend upon circumstances. A manufacturing plant is not a public utility. The public has no interest or no part, under our present conception, in a manufacturing plant. It is individual property. The amount which a manufacturing concern can charge for its products is unregulated. The amount of fair profit it can earn is unregulated, and therefore, it is frequently common for willing purchasers and willing sellers of manufacturing plants to capitalize the earnings of those properties and to pay for them, not what the physical plant is worth but what they believe they can make with a given amount of money invested in that property. In the same way, in the old days, when I was first sent out to investigate public utilities, the only question that was asked of me was: Mr. Hill, what are the gross earnings of this property, what are the operating expenses, what are the net earnings; will you please tell us how many bonds we can put on that property safely. It was on all fours with a manufacturing concern of to-day. That day is past. You cannot evaluate a public utility on the same basis as a manufacturing concern. The courts have said what you must do is determine the fair value of the property used and useful for the purpose, either by reproduction

estimates or by historical costs or by a consideration of both, or in any way that will enable you in the best manner to reach a fair conclusion as to the fair value of that property.

Commissioner Osborne—Perhaps what counsel wants to know is, if you were asked to value a manufacturing plant, disregarding the good will of the business, its earning capacity, would you use the same methods.

Witness—In estimating the physical property of a manufacturing plant?

Commissioner Osborne—Yes, and the cost to develop the plant in its then present state of efficiency.

Witness—Yes.

Q. In condemnation proceedings, in a manufacturing plant, would you use the same methods that you have used here?

A. Substantially, yes.

Q. What do you mean? Where would it differ?

A. I mean to say that in condemnation proceedings, if you wanted to determine the physical property, you would go through possibly, in the absence of definite information, a reproduction estimate, which would be one of the elements that went into the determination of the total value of a manufacturing plant.

Q. That is the only element that you have used here, is it not?

A. That is the only element.

Q. You would do the same with any manufacturing plant that you were valuing for condemnation purposes?

A. No, I don't say that.

Q. You did not get my question. That you were valuing for condemnation purposes?

A. No, I did not say that.

Q. What else would you do?

A. If a manufacturing plant had a business that depended upon its location, for example, for that busi-

ness, a local market; by taking that property you would not only take the physical property, but also take the potential revenue earning capacity of that property. There might be something besides the mere physical property which would be represented in the damage which you would want to assess. None of those things are on all fours with the valuation of a public utility. In my judgment, it is absolutely irrelevant.

Q. (By Commissioner Osborne.) Do you understand that in valuing a public utility it is your duty to have a regard for the law as laid down by the courts relating to the valuation of public utilities?

A. Yes.

Q. And you have decisions of the Courts in mind?

A. Yes, sir.

Q. And endeavor to follow and comply with them?

A. Yes.

Commissioner Osborne—We will take a recess from one to two o'clock.

(Recess from one to two o'clock.)

AFTER RECESS.

Nicholas S. Hill resumes the stand.

Cross-examination, by Mr. Hague (continued).

Q. Mr. Hill, in arriving at the value of this property, did you consider the operating efficiency of the plant?

A. Yes.

Q. In what way?

A. In the same way that it is always taken into consideration, that is, I made proper deductions for depreciation, obsolescence, and for the property which is not used and useful in the operation of the plant.

Q. Did you take into consideration that the old pumps used by this company were expensive to operate?

A. Were defective?

Q. Expensive, that the old pumps used by the Elizabethtown Company were expensive to operate.

A. In valuing the plant?

Q. Yes.

A. No.

Q. (By Commissioner Osborne.) Did you, in fixing the rate of return, in determining what the rate of return should be?

A. In the rate of return, no, sir. The operating expenses—

Q. The operating expenses, I mean. Did you consider the inefficiency of the plant in some degree, or whatever degree you found it to be inefficient?

A. I made no specific deduction in operating expenses for inefficiencies in operation. I did not think that it was necessary to make such deductions.

Q. (By Mr. Hague.) A more modern plant would be considerably less expensive to operate, would it not?

A. The operating expenses on a more modern plant might be less. Whether the combination of increased fixed charges and operating expenses would be less is a question. Of course, that is a problem. You have both charges.

Q. Did you make any effort to find out whether it would or would not?

A. I made no computations to ascertain the amount of saving in the combined interest or capital charges and operating expenses, believing that there would be little or no reduction in operating expenses on account of the comparatively small size of the plant.

Q. Did you make a valuation of the Diamond Mills Paper Company property?

A. Yes.

Q. Will you state the method of valuation used by you in representing the drainage or water power damage?

A. Will I do what?

Q. Will you state the method of valuation used by you in valuating the damage to the water power?

A. I do not think I can do that.

Q. Why not?

A. How?

Q. You were all over it and testified in that case, didn't you?

A. Yes, I went all over it. I don't remember all the details of that appraisal at this time.

Q. Did you take net earnings and capitalize it?

A. Well, now, that depends upon what you mean. The net earnings of what? I did not capitalize any net earnings.

Q. The net earnings that could be made by operating the water power.

A. What I did in that appraisal in a general way, without going into details was this—it is an entirely different proposition to begin with.

Q. Wasn't that a condemnation proceeding?

A. The Diamond Mills Paper Company owned water rights on Esopus Creek in New York State, and the City of New York built the Ashokam Reservoir and diverted the water from the power plant of the Diamond Mills Paper Company, and the problem there was to ascertain what was the amount of the damage to the plant of the Diamond Mills Paper Company by reason of the diversion of the waters of Esopus Creek. What I did there was substantially what is done in a great many similar cases. I compared the cost of operation by water power with the cost of steam substitution. Now, that, of course, involves the capitalization of the difference in the cost of operation by water power and by steam substitution to get the amount of the damage.

Q. At what rate did you capitalize that?

A. I capitalized that, if I recall, I think it was five per cent. That appraisal was made in 1912 or 1913.

Q. That was a condemnation case, was it not?

A. That was a condemnation case, yes.

Q. When was the time that was taken?

A. You mean when was the award finally made?

Q. Yes.

A. I think it was finally made about six months ago, or eight months ago. I do not remember the exact date.

Q. You testified just prior to that time, did you not?

A. Yes, I testified just prior to that time.

Q. You testified as to the value of that time?

A. I testified as to value at that time.

Q. And you used five per cent.?

A. No, that was not my testimony at that time. What I testified to at that time was substantially—

Q. Did you not use five per cent.?

A. If you will let me answer the question—

Q. You can answer yes or no, whether you used five per cent. at that time or not?

A. No, I did not use five per cent. at that time.

Q. All right, go on.

A. I did this—

Commissioner Osborne—Haven't you answered it sufficiently, when you said you did not use five per cent.?

Witness—I simply wanted to make the thing perfectly clear, that is all.

Commissioner Osborne—What you did in some other case, unless it is developed more fully, is not very pertinent to this one. If he wants it developed more fully, he will ask another question. That will save a little time.

Q. That was a condemnation proceeding, was it not?

A. Yes.

Q. I understood you to testify prior to recess, that you used the same method in condemnation as you did in this case, the Elizabethtown Case.

A. No, I did not.

Q. You did not use the same method in arriving at value?

A. No.

Commissioner Osborne—He said he did not testify he did. I do not understand you asked him about that.

Mr. Hague—Prior to lunch.

Mr. Wherry—You asked him whether he used the same fair value in a condemnation as in a rate case.

Commissioner Osborne—In a condemnation.

Mr. Wherry—Yes.

Commissioner Osborne—Now, you are asking about a specific condemnation case, which is a very different thing.

Q. Did you testify on cross-examination, when Mr. English was examining you, that the capitalization of the net earnings was not a fair method of valuation?

A. I said to Mr. English that the capitalization of the net earnings of a public utility—and I drew a distinct line between a public utility and other properties—was not a fair method of determining value under the present status of public utilities. That is all I said.

Q. Do you use the same method in condemnation proceedings as you do in a public utility case?

A. Not necessarily. There are various kinds of condemnation proceedings.

Q. Referring to table 1, exhibit 4, volume 3—

A. What page?

Q. Table 1, volume 3, that is *Exhibit 4*.

A. What page?

Q. Following page 8. You took the average price of material—in arriving at the average price of material you took the averages between the years 1909 and 1918?

A. Yes.

Q. Was that the value that was used throughout your calculations in this whole appraisal?

A. Substantially, yes.

Q. The following column "used in 1918 valuation"; what does that mean?

A. That means you figure that was used, the unit price which was used in the appraisal as of December 31, 1919.

Q. Did you change that in this appraisal?

A. No.

Q. Take the item of cast-iron pipe, the ten year average from 1909 to 1918, $28.77.

A. That was for the Elizabethtown Water Company, yes.

Q. The price used by you was $32.50?

A. $32.50.

Q. Then you did not use the average of ten years between 1909 and 1918, did you?

A. Substantially, yes. That is not the only quotation that is given. The cast-iron pipe allowance was made on the basis of the selling price of pipe as well as the average. $32.50 was about the average price.

Q. Will you read off the averages to the different companies?

A. Elizabethtown Water Company, $28.77; Company A, New Jersey, $28.99; Company B, $27.99; Company C, $25.88; Company D, $28.18; Company E, $30.82.

Q. The reason that Company E had such a price was that it had $94.90 in 1918, was it not?

A. It had what?

Q. Company E, the reason that the price of Company E was so high was that it had a price in 1918 of $94.90, is it not?

A. That brought the average up, of course.

Q. What company was that?

A. I do not recall. I have not the key with me.

Q. Didn't you make this up?

A. I didn't make it up personally; I went over it. There are three companies in New Jersey, but I do not remember what company A, B and C represent.

Q. Can you explain why that particular company paid forty or fifty dollars more than any of these other companies for the same product in the same year?

A. Yes. They bought pipe later in the year 1918 than the other companies, probably.

Q. Notwithstanding these averages, you used the figure $32.50?

A. Yes, I used the figure $32.50 as representing the fair average price for that period.

Q. Does that actually figure out as the average price for those years?

A. Not actually, no.

Q. Then you did not use the average price between those years, did you?

A. I said I did use substantially the average price.

Q. What do you mean, substantially?

A. I mean in every case. Take brick, for instance; the average is $9.15, I used $9; cement, $1.76, $1.75, and so on down the line. I took $32.50 as the fair price of cast-iron pipe.

Q. Take the price of lumber, spruce lumber, what was the average price of that, 1909 and 1918?

A. That was $33.90.

Q. What did you use?

A. I used $40.00.

Q. Take yellow pine, what was the average price of that?

A. $33.10.

Q. What did you use?

A. $45.00.

Q. (By Commissioner Osborne.) How much?

A. $45.00.

Q. As against an average of $33.10?

A. Yes.

Mr. Hague—Nearly fifty per cent. higher.

Witness—In some of these items, your Honor, I took into consideration the market trend and made slight differences, but used these average figures as given on table 1, which shows the actual figures used in the valuation, based my judgment on the averages from 1909 to 1918.

Q. Why did you make such an increase in the cost of pine?

A. Because of the trend of lumber.

Q. That was on its upward trend, then?

A. There is a very decided upward trend in lumber, very decided.

Q. What time of the year was it you made this?

A. What?

Q. What part of the year was it you made these estimates?

A. Made this valuation?

Q. These estimates you have used, these figures, when did you reach your conclusion that $40.00 or $45.00 was the proper amount?

A. We were making this appraisal in the spring and summer of 1919.

Q. When did you actually get down to the use of these figures that you are now testifying to?

A. Probably in the autumn of 1919. We made the appraisal as of January 1st.

Q. That was the time you say there was such a strong upward trend in pine lumber,

A. Yes.

Q. As distinguished from spruce?

A. Well, we carried those prices through from year to year and noticed this trend and make an allowance for it.

Q. You jumped your average from $33.10—was that it?

A. To $45.00.

Q. $33.00 or $35.00?

A. $33.10.

Q. To $45.00.

A. Yes.

Q. (By Mr. Hague.) Mr. Hill, haven't you testified two or three times that you actually used the average prices between the years 1909 and 1918?

A. I have used, substantially used the average prices. The difference between the price I have used and taking the actual figures would be infinitesimal.

Q. Do you consider nearly fifty per cent. difference substantially the same?

A. That depends upon the amount of lumber there is in the plant of the Elizabethtown Water Company. Lumber cuts a comparatively small figure in the total valuation.

Q. A difference of about four dollars in pipe, thirteen per cent.; do you consider that is substantially the same as the average price?

A. $4.00 a ton would make an increase in the value of the distribution system. Just how much I don't know, over the actual average figures.

Q. That is the biggest single item of the whole plant, isn't it?

A. Yes.

Q. It would be very large, wouldn't it?

A. No, not so very large. I don't know what the tonnage is. It would make some difference; It would not be tremendous.

Q. It is about thirteen per cent. more than the average price, isn't it?

A. I have not figured up just what this will work out to on all these properties, average. I could not answer that question off-hand.

Q. Pipe specials; that is quite an item, too, isn't it?

A. Yes.

Q. What is the average of cast-iron B and S?

A. That is $64.70.

Q. What did you use?

A. $71.00.

Q. And you consider that substantially the average, do you?

A. Yes, at a time that the market price was $167.79, virtually.

Q. When was it $167.00?

A. 1920.

Q. But you made this in 1918, didn't you?

A. No, I made it in 1919.

Q. That was before that 1920 average was put in?

A. Yes. In the fall of 1919 the price of bell and spigot pipe was very nearly that high.

Q. You made this valuation you say in 1918 and fixed your value as of 1918. Was that your figure of this true value as of 1918?

A. No, the appraisal was made during the year 1919 on a basis of an inventory of the property existing on January 1, 1919.

Q. It was intended to be true value as of that time?

A. Yes.

Q. Do you think the same is true now?

A. No.

Q. Then this is not the true value?

A. No, I do not say that. I further testified that I had added to the property the plant which had been installed since January 1, 1919, and I had made deductions for the plant which had been discarded in 1919 and 1920, and I had also allowed for the depreciation which accrued in 1919 and 1920, and brought the valuation down to January 1, 1921.

Q. But aside from adding the added property and deducting the property that has been disregarded and the depreciation on, the value is the same as it was fixed by you as of 1918, 1919?

A. Yes, I should say that was correct.

Q. So you feel that the values that held in 1919 hold now?

A. No, that is not fair. I have testified that I did not take the value as of 1918, but I took values which represented, in my judgment, what would be the permanent set in price levels, and after I had arrived at these figures I compared them with the values on other bases and on that I based my value of $4,080,000 on the property.

Q. You have not changed your mind as to the permanency of the values of 1919?

A. My judgment to-day is not fixed on the appraisal of 1919. I used that as one of the elements that entered into my judgment, and have brought the appraisal up to date and based my judgment on what I now see and I now know.

Q. Is your opinion as to the permanency of the values as fixed in 1918 the same to-day?

A. Well, I think the appraisal that we made in 1918, in 1919, fairly reflected the permanent set in price levels. I think if my judgment were affected in any way, my idea would be that the set in price levels would be higher because of the peak that has occurred since 1918.

Q. You had the full knowledge of 1919 prices when you made that appraisal, did you not?

A. I had most of the 1919 prices before me, yes.

Q. The 1919 prices were very near the peak, were they not?

A. The actual peak came in 1920.

Q. Notwithstanding the fact that prices are considerably lower now than they were at the time of the war, you still feel the prices fixed by you at the time of this appraisal should stand?

A. Yes. If I valued on the basis of the prices now existing I would get a valuation which would be appreciably higher than the figure which I have given.

Q. And these items of average value, in which you have allowed a larger amount than the actual figures of the then averaged value, does that hold good throughout this whole appraisal on the various items?

A. I do not understand the question.

Q. For illustration, you have the case of a yellow pine lumber at $33.10, and your valuation used in 1918 was $45.00. Is there the same variance between the various items of your appraisal all the way through?

A. No.

Q. More or less?

A. In some cases we used the actual average, in some cases we interpose judgment, using substantially the average.

Q. In any case where you interposed judgment, did you use a lower price than the actual average value?

A. No.

Q. Always higher?

A. Yes.

Q. That applies to a number of different items as well as these we have enumerated, does it not?

A. The actual prices used on all of the principal items are given on table 1. The table sets forth everything that was done and is there for inspection. Table 1, following page 8 of *Exhibit 4*.

Q. What table?

A. Table 1.

Q. What exhibit?

A. *Exhibit 4*, volume 3, *Exhibit 4;* the table you have in front of you.

Q. What is the present price of copper as compared to that of 1913?

Mr. Wherry—I object on the ground that there is nothing in this in regard to copper.

Q. Don't they use copper in any part of the plant?

A. Copper comes in—

Q. Brass, I will put it, brass.

A. Brass comes in to a small extent.

Q. It is one of the elements, is it not?

A. Yes.

Q. What is the present price of copper as compared with 1913—I mean brass, is it lower?

A. I do not recall off hand. I know that copper has gone down very materially.

Q. Take leather and rubber, are they lower or higher than they were in 1913?

A. I do not know just exactly the reduction. Leather and rubber practically do not enter into water works. It makes no difference. Rubber boots for the men, a few things like that.

Q. Don't they use rubber gaskets in any way in their pipe connections?

A. Yes. It might be one-tenth of one per cent. of the total value of the plant.

Q. It shows there is a general reduction in the prices of all materials, does it not?

A. There has been a reduction in the price of most materials.

Q. Isn't it a fact that some of the materials are down lower than they were in 1913?

A. I know of none that enter into the water works construction to any extent which are lower.

Q. I understood you on cross-examination by Mr. English, Mr. Hill, to say that the book cost of a considerable portion of the plant was not available.

A. Were available?

Q. Were not available?

A. That is true.

Q. How far back were the actual costs available?

A. Well, there is nothing of any great accuracy back of 1913.

Q. Didn't they keep the books accurately prior to that time?

A. No. The time at which there is really any available information is when the company changed its system to conform with the accounting system of the Public Utility Corporation.

Mr. Wherry—Public Utility Commission.

Witness—I mean the Public Utility Commission.

Q. Didn't they carry on their books the actual cost of work prior to 1913?

A. I have shown what they carried in their balance sheet as the value of the plant.

Q. Did you go into that in detail?

A. I went into that in detail, and I have shown at the following page, 14, on the balance sheet, the property account of the company, which gives a total physical value of $2,200,931 as carried on the company's books.

Q. You have used actual values from what date?

A. We have used the actual cost of construction in the years 1919 and 1920, the additions that have been made since the last appraisal.

Q. That was the very peak of prices, was it not?

A. Yes.

Q. You had the actual cost back as far as 1913, did you not?

A. Yes—not on every item. I do not want to have you misrepresent the thing. There were cost data available.

Q. Do you mean to say that they have not kept their books properly since the requirement of the Public Utility Act?

A. They have not kept their books in accordance with the Public Utility accounting system.

Q. Then it was possible to find out the actual cost that they had, was it not?

A. No, not altogether. It does not follow because the company follows the classification of the Public Utility Commissions that they have all the charges properly allocated to construction account.

Q. What change was made in their system of accounts in 1918 or 1919 different from what they had in 1913 to 1918?

A. What construction went on during 1918, 1919 and 1920 was of very recent origin, and it was not difficult to go over the books and find out what those items were.

Q. Was it any more difficult in 1917 and 1918?

A. I don't know that it would be in 1917 or 1918.

Q. Why wasn't the actual cost taken where it was ascertainable.

A. I have.

Q. Back as far as it could be taken?

A. I have done so. I have presented both. I have taken $2,200,931 and presented it in the balance sheet which shows the total value which the company carries their plant at, present it in evidence to the Commission.

Q. You have not used it in any of your computations, have you?

A. Yes, I have used it.

Q. In arriving at the rate base?

A. I have used it and checked it with the pre-war estimate, all of which is explained, and to which I have testified on several occasions, and which is shown in the summation of values on table 4-F.

Q. Has it been used by you in fixing the rate base in this case?

A. One of the considerations which I had in mind.

Q. As a matter of fact, your rate base is fifty or sixty per cent., is it not?

A. Yes. That $2,200,000 —

Q. Your rate base includes the actual cost—

A. Will you pardon me just a moment?

Q. I beg your pardon.

A. I mean that $2,200,000 does not necessarily represent the total investment in this property. It is what the books show as the investment, but there are other considerations to be taken into account before arriving at the true investment.

Q. You might explain what those are.

A. I mean to say, one question that comes up is as to whether in the old accounting system the construction overheads were included in their construction costs or whether they were charged to operating expense.

Q. Do you know whether it was?

A. I know that they were not.

Q. How do you know?

A. I know by experience in all these companies, and I know by going over the accounts.

Q. Could you find that by going over the accounts?

A. Yes, it pretty clearly indicated.

Q. If you could find that out, how is it you could not find out this other information and get the actual cost?

A. I have given you everything that I was able to discover.

Q. But in arriving at the rate base, you used the actual figures for 1918 and 1919, didn't you, 1918, 1919 and 1920?

A. I used those figures in order to get a fair average. The cost of the plant as indicated by the books, the cost of the plant estimated on the pre-war basis, the cost of the plant estimated on the 1921 basis are not necessarily the value of this property, and I have testi-

fied repeatedly here that I was seeking to find the fair value.

Q. As a matter of fact, you used the actual cost where the cost was higher and used the estimated cost where they were lower, did you not?

A. No.

Q. You only used the figures of actual cost during the time when the cost was at the highest peak and far above your average, was it not?

A. Naturally I used the actual cost—

Q. While they were high?

A. (Continued.)—in recent times, because I felt that the cost as shown at the date at which the appraisal was made was closer than any estimate which I could make. But where a reservoir was built in 1840 and included in the capital account, there was no necessary relationship between the cost and the value.

Q. Did you value the real estate?

A. No.

Q. Did you make the comparative estimates of the real estate as shown by table 4?

A. What page is that?

Q. 4-E.

Mr. Wherry—Between pages 11 and 12.

Q. Just explain the different price you have there, will you, please?

A. The price basis in the different years was arrived at by taking the ratio of the average price on each basis, as shown in columns 3, 5, 7 and 9.

Q. Is this made up by you from figures that were furnished to you?

A. It was not made up by me personally, now, it was made up in the office.

Q. I beg your pardon.

A. It was not made by me personally; I did not make it personally.

Q. Wasn't it under your supervision? Wasn't it your judgment that was passed on it finally?

A. It was passed by me finally.

Q. And it is your judgment?

A. No, I won't say it is my judgment.

Q. Didn't you say this morning it was your judgment in every case?

A. Well, it is, but I won't say that that particular item is my judgment.

Q. How many items are your judgment and how many are not?

A. I could not tell you.

Q. You don't know?

A. No.

Q. Then would it be necessary for us to take every item up to find out which is and which is not your judgment?

A. Yes, I presume it will be.

Q. Then you are not prepared to testify on these items here, I presume?

A. Yes. I can say right now that on this real estate I think an error has been made, because there is no relationship between the ratio of other materials and real estate. It is one of those things that slip through in the routine. The real estate values really have not changed materially between 1916 and 1921.

Q. But they are shown here as changed?

A. Yes, they are shown there as changed.

Q. Take item 105, water diversion rights.

A. That is true of that also.

Q. How about impounding dams and reservoirs?

A. They had changed.

Q. How?

A. That had changed?

Q. That changed?

A. Yes.

Q. How about organization?

A. That may change.

Q. I beg your pardon.

A. That changes.

Q. What are those expenses?

A. They include the preliminary organization and development of the company before it gets to the construction stage, and the cost of that would vary with the cost of wages, salaries. At times of high cost it would cost more than at times of low.

Q. Is legal expenses in there?

A. What?

Q. Is legal expenses included?

A. Yes, engineering expense.

Q. The ratio there, 3 and 7, is an increase of pretty nearly three times, is it not?

A. In organization expenses?

Q. Yes.

A. No.

Q. Three times the pre-war price?

A. No.

Q. Nearly so, 1909-1914, ratio sixty-eight one-hundredths of $46,447.

A. Yes, very nearly three times.

Q. Are your expenses three times as much as they were prior to the war?

A. No, I do not think they are.

Q. Are lawyers' charges three times as much as they were prior to the war?

A. I don't know that.

Q. What expenses that go to make up this item here have increased three times, practically three times?

A. There are quite a few items that have increased. Cast-iron pipe increased at one time to more than that.

Q. What was that?

A. I say, cast-iron pipe increased to more than that.

Q. I mean under organization.

A. Under organization?

Q. Yes. What items that go to make that up have increased three times, practically?

A. I do not think I can name any.

Q. Then that item is wrong, too, isn't it?

A. I think that item is probably a little high.

Q. How much high? It runs into $121,000.

A. I would like to go into that and make a rational estimate rather than guess at it here.

Q. There is three times in one calculation there. That was clearly wrong, is it not?

A. No.

Q. You said so; you said that organization, real estate and water diversion rights were not right.

A. Mr. Hague—

Q. Just a second. Didn't you testify that those three items were not right?

A. I testified that the ratio of costs between the pre-war price and the 1920 or 1918 price was too high. That has nothing whatsoever to do with the valuation which I placed on this plant.

Q. Isn't it also true that that affects the average price?

A. No. It would bring down the higher price by a certain amount.

Q. Every one of them, would it not?

A. Yes, every one of them.

Q. And it would bring down your appraisal?

A. No, not necessarily.

Q. (By Commissioner Osborne.) Does it relate to your unit costs?

A. That is what I am trying to bring out so as to have the thing fairly stated. I made the appraisal on a certain basis, which is shown in column 2 in that table, and then I applies ratios. In applying these ratios for material and labor the mistake was made of applying the same ratios to organization expense, real estate and water rights, and it makes the ratio on the 1921 price, the current price in April, 1921, higher than it should be, which means that the figures of reproduction cost as of 1920 or 1921 are higher, which makes the peak a little bit higher for those particular items, but it would not affect the estimate which I have made of the value of the property. That is the point I want to bring out.

Q. Do you mean to say that the average pre-war price between 1909 and 1918 which was $329,150—

1909 and 1914, which was $329,150 increased to $484,-044?

A. That was not prepared in that way.

Q. Isn't that what is in the book there?

A. No, that is not what is in the book there.

Q. Have you the same book as I have?

A. Yes, I have the same book.

Q. What is it then? Those figures are there, are they not?

A. No, they are not, not as you have put them.

Q. The figures I have read are not there?

A. Not as you put it, no.

Commissioner Osborne—What book is this, which volume?

Mr. Hague—Volume 3, *Exhibit 4.*

Witness—You have the cart before the horse.

Q. Have you table 4-E, Mr. Hill?

A. Yes.

Q. The figure based on prices covered before the war, 1909-1914, have you got those figures?

A. Yes.

Q. The second item down, you have $329,150 as the current price before the war in 1909-1914, have you not?

A. That is the price of real estate as stated in that column.

Q. Now, you have, based on the price used in 1918, $484,044, have you not?

A. Yes.

Q. Has that real estate increased the difference between those two figures?

A. Not at all. The appraisal of the real estate was made as of 1918, and the figure of $484,044 in column 2 is the appraised valuation of the real estate in 1918. The ratio of these other costs was all established on the basis of the 1918 figure. This statement shows that the real estate prior to 1914 would have been worth only $329,150.

Q. Where do you get those figures?

A. The figure $484,044 is the appraised value of the property, made by real estate appraisers at the time this valuation was made. These columns following column 2 do not change or alter the base, which is the figures given in column 2, on which the appraisal was made.

Q. Where did you get $329,150?

A. By multiplying $484,044 by .68.

Q. Who fixed on .68?

A. That was a figure based on a study.

Q. Who fixed it?

A. I fixed it.

Q. How did you arrive at it, where did you get it?

A. It was arrived at by making a study of the price trend of materials and labor which enter into this plant, for different periods.

Q. Did any materials or labor enter into the real estate?

A. I have testified on three or four different occasions that that ratio should not have been applied to real estate.

Q. Have you looked at this table before?

A. Yes, I have looked at that table before.

Q. Did you look at it before it was submitted to this Board?

A. Yes.

Q. Why was it put in in that form?

A. I don't know.

Q. I beg your pardon.

A. I don't know why it was.

Q. I understood you to say that you did not know the number of items which are your own judgment in this whole report.

A. Mr. Hague, I have testified that I have been all over this and that I fixed upon the prices, that I did not do each and every multiplication, that I did not prepare each and every table, but that I had been over the whole thing. That is as far as I can go.

Q. How did you estimate the annual depreciation?

A. I think that was explained on my direct testimony.

Q. Have you that set out there; can you refer me to the page?

A. The annual depreciation was taken at one and one-half per cent.

Q. Will you refer me to the page, please?

A. It will be in exhibit 5, volume 4.

Mr. Carver—Page 7, P-5, top of the page.

Q. Did you merely assume one and a half per cent.? 10

A. Yes.

Q. How did you arrive at one and a half per cent.?

A. A matter of judgment.

Q. Did you use a similar method in getting your accrued depreciation?

A. No. The method of determining the accrued depreciation was a combination of depreciation applied by inspection and using the sinking fund method of determining accrued depreciation on three per cent. sinking fund basis. 20

Q. Then there is no connection between the accrued depreciation which you have charged off the plant and the annual depreciation?

A. No definite connection.

Q. Shouldn't the two agree, shouldn't the two agree to be consistent?

A. No, I do not think so necessarily at all; it does not follow by any means.

Q. Do you think what has happened in the past as to accrued depreciation has nothing to do with what would 30 be allowed in the annual depreciation?

A. Under some circumstances, yes, and under others, no.

Q. Why not in this particular case?

A. Well, assume in the first place a case where a plant was built, badly designed, there are a large number of elements which had to be thrown out and replaced; if you took the historical average for determining your annual depreciation reserve you might get a

very high figure, whereas if the parts which had proven inefficient had been discarded and replaced you would figure on an annual reserve which was very much lower. I do not think that the historical depreciation is necessarily the proper amount to use for annual depreciation.

Q. Isn't the accrued depreciation on the actual structures you have followed the real test in determining the annual depreciation?

A. No. I think the best test to apply to that is to take properties of a similar kind and ascertain as nearly as you can from comparatively recent records what the depreciation accruals amount to, to give you the best evidence of what is a proper depreciation reserve.

Q. What allowance for depreciation did you allow in the Hackensack Company, for annual depreciation?

A. I have forgotten. I think the final allowance that was made by this Board was 1.1 per cent., as I recall it, but I do not remember whether that was—

Q. Wasn't it one per cent.?

A. 1.1 per cent. I do not remember whether that was—

Q. What was allowed the Commonwealth Company?

A. I have forgotten whether that was higher. I think it was a little, but I have forgotten the exact figure.

Q. Why do you allow more in this case than in either one of those cases?

A. Because I think there is more depreciable property in this plant, more pumping stations, more elements which are liable to depreciation than in either of the other plants.

Q. Do you depreciate the well systems?

A. Yes.

Q. Have you marked off depreciation on them?

A. Oh, yes.

Q. What is the oldest well system in the appraisal?

A. The Hummocks pumping station is the oldest well system.

Q. How old is that?

A. That is about—most of the wells there are—some of the wells I should say are twenty-two years old, some of them are seven years old.

Q. What was your appraisal of the Irvington Avenue Reservoir, the cost of reproduction new?

A. The present value or depreciation value of the Irvington Avenue Reservoir is $142,263.

Q. What is the cost of reproduction without any overheads?

A. The cost of reproduction without overheads?

Q. Yes, the cost of reproduction new, without overheads.

A. $153,392.

Q. What is the cost as carried on the company's books?

Commissioner Osborne—I do not see that in schedule one here of page 4-E, volume 3, impounding dams and reservoirs. It ought to be there, hadn't it?

Mr. Hague—Exhibit 4, volume 3, table 6.

Commissioner Osborne—Look at volume, 3, valuation of the plant; why isn't it there, under item 107? That is the one you were using a few moments ago with reference to the real estate.

Mr. Hague—Will you just refer to where that is found, Mr. Hill?

Commissioner Osborne—I do not want him to find it. I want to know why it is not in a certain other place.

Mr. Kean—It is under 128.

Commissioner Osborne—Gravity intakes?

Mr. Kean—128, storage reservoirs, tanks and stand-pipes.

Commissioner Osborne—It is a storage reservoir. All right. What did you say you valued it at?

Q. The reproduction cost was how much?

A. The reproduction cost without overheads—that is the question you asked—$153,392.

Q. What is it carried on the company's books at?

A. It is carried on the company's books at $30,512.10.

Q. That was the cost of building it?

A. No, I don't say that was the cost of building it. I say it is carried on the company's books at that price. That is one of the indications of how accurate the company's books are.

Q. Would the company likely carry it on its books at less than what it actually cost?

A. Undoubtedly.

Q. Are you familiar with the reservoir?

A. Yes, I have been there a great many times.

Q. It is bounded by Prince Street, the Elizabeth River and Irvington Avenue?

A. Yes.

Q. It is an earth reservoir, is it not, that banks?

A. Yes.

Q. Is it paved?

A. Not the bottom, no. The sides.

Q. What is the size of it approximately?

A. I will have to look up the dimensions.

Q. You can give us the capacity of it, Mr. Hill, if you have that.

A. I have not the over all dimensions of that reservoir.

Q. Have you the capacity of it?

A. Twenty-one million gallons.

Q. The base cost of reproduction of $153,392 would be how much cost per million gallons? I just want the approximate cost.

A. $7,300.

Q. Don't you think that is pretty high?

A. No.

Q. You could build a concrete reservoir for that, could you not?

A. I do not believe you could.

Q. At pre-war prices?

A. I would not want to say that off hand.

Q. This is nothing more than a dirt reservoir?

A. It is an earthen reservoir. There are about 79,530 cubic yards of excavation.

Q. Carried on the company's books for $30,512?

A. Yes.

Q. (By Commissioner Osborne.) How much did it cost to build—how much did you say it would cost?

A. My estimate of the cost of reproduction, without overheads, is $153,392, about $7,300 a million gallons.

Q. (By Mr. Hague.) How did you figure the 79,000 —was it 79,000 yards of excavation, cubic yards?

A. Yes, sir.

Q. How did you figure that?

A. That was figured on the survey and certification of E. L. Myer, city surveyor, made in 1885, as a basis for the final payment to the excavation contractor.

Q. How much did that excavation cost?

A. I do not recall.

Q. Didn't the certification give it?

A. It may have. I haven't got the figure in my head.

Q. You had it in your possession, didn't you?

A. Yes, at one time I did.

Q. You could have got the exact price of it, couldn't you?

A. I would have to look that up to tell you.

Q. Wasn't it a certification for payment?

A. It was a certification for final payment, but whether that certification was on quantity and price both I am not positive.

Q. Wouldn't necessarily the certification for payment include the price, have the price on it?

A. I have not the slightest objection, if I can get the payment, to bring the amount here, if you want it.

Commissioner Osborne—Might it not refer to the price fixed in the contract?

Mr. Wherry—He was to determine the number of cubic yards.

Commissioner Osborne—He might have certified so many cubic yards were excavated and the contractor was entitled to payment for same under the terms of the contract.

Q. What price did you figure per cubic yard?

A. One dollar.

Q. One dollar a cubic yard?

A. Yes.

Q. How many cubic yards were there?

A. 79,530.

Q. How much would that total?

A. That totals $79,524.

Q. Where is the other seventy-five or eighty thousand dollars that goes in to make up the $153,392?

A. There is the earth embankment above the natural ground.

Q. Did you figure that twice or to be handled as one job? If they excavated the ground to make the hole for the reservoir, wouldn't they naturally carry it up on the banks and build the side walls with earth embankment?

A. Very often they do it that way.

Q. Do you consider there would be another charge for putting the banks there?

A. Oh, yes.

Q. They take the earth away and bring it back again to make the banks?

A. It would cost for placing and rolling. Excavation is one thing, embankment is another. It is very often figured that way, and in those cases it is.

Q. Does steam shovel work cost an average of a dollar a cubic yard?

A. I should say one dollar a cubic yard for that excavation was a fairly reasonable price.

Q. You have not answered my question.

A. Yes, I did.

Q. I asked you whether steam shovel work would average one dollar a cubic yard?

A. Yes. I think one dollar a cubic yard would be a fair price for that work.

Q. What kind of material was it?

A. It was rather a hard, stiff clay, I take it, judging from the surrounding country there and from excavations we made in the filter plant just north of the Irvington Avenue reservoir. It is very stiff, hard clay.

Q. Have you investigated the price of steam shovel work in the City of Elizabeth?

A. No, I don't know that I specifically investigated that.

Q. You really don't know what it could be obtained at in the City of Elizabeth?

A. Yes, I know pretty well what it can be obtained at.

Q. How do you know if you made no investigation?

A. I have done excavation just at the Irvington Avenue reservoir.

Q. What job?

A. The Irvington Avenue filter plant, what we call the Ursino Lake filter plant.

Q. When was that made?

A. That was built in 1918 or 1919.

Q. I beg your pardon.

A. That was built in 1918 or 1919.

Q. Was that a contract job?

A. Yes.

Q. No steam shovel work there though, was there?

A. Yes.

Q. Was there?

A. Yes.

Q. Who was the contractor?

A. A man named Wilgus.

Q. What was the price of steam shovel work on that job?

A. I don't know.

Q. Didn't you look it up in making up your valuation on that?

A. I haven't a doubt of it.

Q. But you don't remember?

A. No.

Q. How much have you charged in here on the Irvington Avenue estimate for embankment?

A. 27,996 cubic yards in embankment at one dollar.

Q. 27,000 yards at one dollar a cubic yard?

A. Yes. That makes $27,996.

Q. What is the next item?

A. Stripping the area under earth embankment.

Q. I do not understand.

A. Stripping the area under the earth embankment, before the earth embankment was placed on the sides of the reservoir.

Q. Stripping it?

A. Stripping it, yes.

Q. What is stripping it? I do not understand what stripping is?

A. Removing any standing bushes, timber, removing the top soil and getting a secure joint between the embankment and the solid earth.

Q. Do you know whether there was any such stripping to be done on the Irvington Avenue reservoir?

A. It was necessarily done. I hardly think that the reservoir was built without connecting up the soil. That would be the ordinary way to do it.

Q. Do you know that?

A. No, I don't know that, I was not there when the reservoir was built.

Q. That was a contingency you allowed in arriving at this estimate?

A. No, I don't think it was a contingency. I estimated the cost of reproducing that reservoir.

Q. How much did you allow for that, for stripping?

A. I allowed one dollar a cubic yard, cleaning and stripping.

Q. How many yards?

A. 4,836 cubic yards.

Q. What is the next item?

A. That is $4,836. Then riprap on the embankment.

Q. How much does that amount to?

A. That is 3,812 square yards.

Q. At what? A dollar a yard?

A. One dollar a square yard. Retaining wall on Elizabeth River bank, rubble wall and mortar.

Q. What is that?

A. Retaining wall on Elizabeth River bank, rubble masonry wall laid in mortar, at seven dollars a cubic yard, $671.

Q. Where is that bank, where is this wall?

A. That wall is along the Elizabeth River side of the Ursino Lake reservoir—the Irvington Avenue reservoir.

Q. Is it down along the creek?

A. Yes.

Q. How big a wall is it? I am familiar with that, live very close to it.

A. There is one piece of wall that is 57 feet long by 2 feet 3 inches wide, by 6 feet high, and there is another piece that is 12 feet 6 inches long and 5 feet 5 inches high.

Q. Is that the wall that is front of it on Prince Street?

A. No, that is further up the bank, as you walk along the little path coming from the pumping station up to Irvington Avenue.

Q. What is the next big item?

A. Then there is pipe and valves, which brings the total up to $118,976.

Q. What do the pipes and valves run into, how much money, total?

A. I haven't got the total here. They are added individually. They run into about eighteen, nineteen hundred dollars. Siding, trees and seeding, making a job cost of $120,379, with contractor's profit and expense added, making—

Q. How much have you added as contractor's profit?

A. Twenty-five per cent.

Q. That is over and above your one dollar per cubic yard?

A. Yes, sir.

Q. Do you know of any steam shovel job in that vicinity which has paid one dollar and twenty-five cents net?

A. No, I do not. I have not gone into it in that way.

Q. This job would be done by steam shovel, wouldn't it?

A. Not necessarily.

Q. Would it be done cheaper by scraping?

A. I am not prepared to say exactly which would be the cheapest method. I have used what I consider a fair unit price for that work.

Q. Let me understand again, Mr. Hill. Do you contend that the embankment that is to be built up, that they would not take the earth from the excavation and put that on the bank and make the bank at one time?

A. If the material was satisfactory, they would.

Q. If it was a hard, stiff clay would they do it?

A. They might and might not, depending upon—

Q. I understood you to say the character of that soil was a hard, stiff clay?

A. It was in the reservoir, in the filter plant.

Q. Have you examined the bank?

A. Yes, I have been all over the place, walked around it.

Q. Do you know what material it is?

A. No. The bank is sodded, is sodded over.

Q. You have not made any inquiry as to just how the job was done, have you?

A. We always, in going over these things, try to get the history of the plant. The Irvington Avenue reservoir was built some years ago, and it is pretty difficult to get any definite information as to just what was done. Let me look that up just a minute.

Q. It was built in 1885, was it not?

A. Yes. I will give you it in just a minute.

Q. I am not so much interested in that, Mr. Hill.

A. That reservoir was built 33 years prior to 1918. That would bring it 1875.

Q. On top of that twenty-five per cent. that you added, you also added contractor's profit, you say?

A. Oh, no.

Q. Contractor's contingencies?

A. No.

Q. Didn't you tell Mr. English that you put that in your estimates?

A. The only thing I have allowed for the contractor, including all of the contractor's overhead, is twenty-five per cent.

Q. You have charged an item of $27,000 in there for building the embankment?

A. Yes.

Q. In addition to the one dollar a cubic yard for the excavation?

Q. Regardless of the fact of whether the same earth was just turned out with a steam shovel and piled on the bank?

A. You can hardly do it just that way.

Q. Is that so, regardless of the fact it could be done that way?

A. I don't say it could be done that way.

Q. Would they take that earth and cart it away to some dump and then bring some other earth there?

A. No, the probabilities are that the earth which they could utilize—you see there were 26,000 cubic yards of earth in the embankment and 79,000 cubic yards of excavation, and that leaves 50,000 yards of excess material in the excavation which would not have been in the embankment; that had to be carted away, carried away. 26,000 yards had to be put into the embankment and properly rolled and handled to make an embankment for the reservoir. You cannot simply take earth out of an excavation and throw it on a bank and make an embankment for a reservoir and have it water-tight.

Q. As a matter of fact, isn't that what was done in this particular reservoir when it was built?

A. I believe not. If they did I don't believe it would have held water.

Q. How do you know?

A. Because reservoirs are not built that way.

Q. When you say it you believe it was not done, how do you know that?

Commissioner Osborne—He says, because it is holding water. That is part of his answer. If it had been done that way, it would not have held water, in his opinion.

Q. Wouldn't all that would be necessary to do would be to roll it out?

A. If you get a stiff, clay material you have not only got to roll it, but probably have got to harrow it and wet it down.

Q. Is stiff clay material the best material that could be used?

A. Excellent material for an embankment if properly covered after it is laid up, but it is hard material to work.

Q. As I understand you, you testified the character of the soil down there is stiff clay material.

A. Yes.

Q. So the probabilities are that the material what was there was used?

A. I don't doubt that. I am only trying to indicate that you simply cannot take a steam shovel, as you want to do, and put it in a hole, twist it around and put it in banks for a reservoir.

Q. I will modify that. The material that was taken out, if it was a stiff clay material, as you testified, would have been used for the banks?

A. Probably so.

Q. In the event of that being used, do you still maintain it would have cost an extra dollar per cubic yard for this embankment?

A. I would not have used the figure if I had not thought that was so.

Q. You cannot refer us to any particular place where it cost that much?

A. I think I can.

Q. Where?

A. I would like to look it up. I will bring you some cost estimates at the next hearing, which I think will show costs much higher than that.

Q. How long has the Piscataway Water Company been built?

Commissioner Osborne—Are you taking up now an entirely new line of cross-examination?

Mr. Hague—The Piscataway is one of the properties, I understand, that is in this appraisal.

Commissioner Osborne—How long will it probably take to finish your cross-examination.

Mr. Hague—We expect to go on with the cross-examination after to-day, your Honor.

Commissioner Osborne—You will not be able to finish to-day.

Mr. Hague—If it is the desire of the Board, I am willing to drop my cross-examination and allow the Utility Commission's engineers, if they care to, to go on with theirs, and take mine up at another time, because I want to go over the matter with Mr. Fuller, in detail

Commissioner Osborne—Mr. Herrmann, I think, would desire to ask some questions and it occurred to me, if this was a convenient stopping place in your examination, we might suspend now and let Mr. Herrmann go on with his cross examination, because it is quite possible it might not be convenient for him to be here at some of the other hearings on the adjourned day. After you have conferred more with your engineer it may be that you may curtail your cross-examination somewhat by reason of familiarizing yourself with the matter.

Mr. Wherry—Before Mr. Herrman commences, could I ask Mr. Hill one or two questions?

Commissioner Osborne—Yes.

Q. (By Mr. Wherry.) Mr. Hill, when Mr. English was examining you with regard to the fair rate of return, I understood you to say that you had based your eight per cent. on the yields and figures in regard to yield, you had gotten up, is that correct?

A. Yes, sir.

Q. The yield on bonds and stocks of utility companies?

A. Yes.

Q. Have you that in the form of an exhibit?

A. No, I have not.

Q. Will you prepare it so we can produce it and put it in evidence when I come to the redirect examination?

A. Yes.

By Mr. Herrmann.

Q. Mr. Hill, I simply desire to confine you to-day to an examination upon the theory upon which you have gotten up this valuation. As I read the theory in your valuation itself, you have stressed and based your final value, giving the greater weight to the cost to reproduce, is that true?

A. The cost to reproduce on a certain basis, yes.

Q. In other words, of all the factors that ordinarily enter into the making of a valuation, the cost to reproduce being one, you have given that more weight than any other, such as historical cost or the actual investment or outstanding issue of stocks and bonds, or the earning capacity of the plant, isn't that true? You have given greater weight to the cost to reproduce?

A. Yes, I believe that is true. May I modify that to say, not the cost to reproduce on the highest market, nor the cost to reproduce on the lowert market, but the cost to reproduce on a basis which I believe is fairly representative of the permanent set in price levels. My reason for doing that is because of the peculiar circumstances in which we now find ourselves. Historical costs are not indicative of value, as they were, because of the change in price levels. Earning capacity is, in my judgment, simply working in a vicious cycle, capitalizing earnings, because the value under those circumstances depends solely upon the question of whether the earnings are a fair return; if they are in excess, you get an excess value; if they are below, you get less

than a fair value. So you come back to the old question of the base again and capitalization means nothing unless the capitalization is in proportion to the fair value of the property.

Q. Let me take up each one of the questions as you have anticipated them. What base did you use, or what average of prices did you use, and why did you think the average of prices you used was the fair average price?

A. I was in a position that anyone would find themselves in under similar circumstances.

Q. So that you used the period from 1909 to 1918?

A. My reasoning was this: I believe that there is going to be a gradual recession in material prices.

Q. Before you come to that please—

A. What?

Q. Before you come to that. The war started in 1914.

A. Yes.

Q. There was reflected in the prices the immediate effect of the war, by an increase.

A. Well, the price market really did not ascend materially until about August, 1916, that is when the prices commenced to go up.

Q. And reached its peak about 1920?

A. Yes.

Q. But was very high in 1918?

A. It was high in 1918.

Q. How much higher would you say your average price was, based upon the average existing between the years 1909 and 1918, than the average existing before the war for a similar period?

A. The average of 1918 and 1919?

Q. No. The average prices which you took, ranging over a period 1909 to 1918, how much in percentage would you say they were higher than the so-called normal prices of the same period before the war, for example, from 1911 to 1914?

A. I should say in round figures—I should say from forty-five to fifty per cent.

Q. Forty-five to fifty per cent. higher than the so-called normal prices, the pre-war prices?

A. The pre-war prices, yes.

Q. If that was your moving factor, what is the effect, in your mind, going to be on regulation, if rates are based upon prices such as you say, and your theory that prices are going to recede to approach the pre-war period; what is going to be the effect both to the utilities and to the public, in regulation, if such a theory is adopted?

A. I believe the effect is going to be this: That under the conditions existing at the present time the Public Utility Commissions will find themselves obliged to recognize the permanent set in price levels, and to base their return on valuations made taking into consideration that permanent set, in order to enable the public utilities to give the service required of them by the public and to prevent the repeated return of public utilities to the Commission for relief on account of shortage of income.

Q. You will concede, will you not, that it is not probable that the period over which you have averaged the prices, or the prices which you have averaged over the period are likely to be stable, but are more likely to recede.

A. I think that in taking the prices which I have—in answer to your question—which are appreciably below the current prices as of the present day, I have allowed a large margin for recession of prices, and that the prices will not get down to the base which I have used for some time to come. When the time comes when prices fall below the level which I have assumed, it may be necessary for the Public Utility Commissions of the various States to make a revaluation establishing a new base at that time.

Q. In other words, if the prices recede to the pre-war prices you think that a new valuation will be necessary?

A. Yes, but I think I have allowed a margin so as to make a stable base here for some years to come, so that

the return to the Commission will not be in a year or two years or six months, as in the case of all these water companies. Take the history of the Hackensack Company; they have had three applications—first, the old original case, then an application for the first increase, an application for the second increase, and with all those increases, the company passed its dividend on June 1st and is unable to pay the dividend on its stock. The Commonwealth Company has been back no less than three or four times.

Q. Isn't that a very unstable theory, though? If you adopt a normal base and vary your rate of return, isn't the same thing accomplished?

A. Well, if you allow a high enough rate of return, yes. The trouble with that is, if the Commission allows a ten per cent. return, or something in excess of what is really the return as of the time, to cover the difficulties of financing in a market of this kind, then the impression is produced that they are too liberal in the rate of return.

Q. Now, then, as an engineer, you would not assent to the proposal that as prices vary the base should be changed and a new valuation made each time.

A. If the rulings of our courts are correct, that what is to be determined is the fair value of the property, it seems to me that it is going to be necessary, not every year, not every two years and not every three years, but possibly every five or ten years, to review the valuations which have been made of public utilities, for the purpose of ascertaining whether the fluctuation has been such as to warrant a change of the base on which the rate schedule is figured.

Q. In other words, you are of the opinion that it is better to keep the utilities and the public in this interminable change of base rather than having a stable base with a changeable or variable rate of return.

A. That is just what I want to avoid, and that is the reason I suggested to this Commission to give these companies sufficient to finance on originally and to put into service a discount rate schedule which will enable the

Commission on quarterly reports to reduce the rates in the form of a rebate.

Q. But by your theory, as promulgated in this valuation, in which adopt a base which you admit is forty-five to fifty per cent. higher than the normal base, can't you see that the consequence will be that the Board would be obliged to find a new base, with receding prices.

Mr. Wherry—I object to that.

Q. (Continued.) Or if there is a base fixed which is below the normal, that with the advent of normal times they would have to increase in base.

A. No, I don't see that, for this reason—

Mr. Wherry—I object to the question on the ground that it is assuming something that is not in evidence, that Mr. Hill has said his valuation was above the normal valuation. I don't think he has ever said it while I have been in the room.

Mr. Herrmann—I think you were out of the room, Mr. Wherry.

Commissioner Osborne—You were out of the room during part of this examination.

Mr. Wherry—Did he say this valuation was above the normal?

Witness—No.

Commissioner Osborne—Above the normal pre-war?

Witness—Pre-war.

Commissioner Osborne—I think that is what counsel refers to when he says normal, because normal is what is, and if it is as it should be at a given time, then it is normal for that time. Normal may be almost anything. His question related to the condition of prices that existed before the war, before the rise which began in 1916.

Witness—Were you waiting for me to answer?

Mr. Herrmann—I thought you were making some calculation.

Witness—I was.

(Question read.)

Witness—If I may, before answering that question; I have not testified that my price was forty-five or fifty per cent. above the normal base. I said it was that much above the pre-war base.

Q. I so understood it. That is what I refer to by normal.

A. I consider that my price is as near normal as of to-day as could be obtained. It is so much higher than the pre-war, but it is equally as much below the present price level. Virtually what I have done is to draw an average, a normal line through the peak pre-war as low and the war peak as high and avoided both the minimum and maximum, getting a normal level which will carry forward for some years to come. We have got a margin left now for prices to drop considerably before this Commission will have to consider the price basis on this property.

Q. You would not say, would you, that if the war had not disturbed economic conditions as it did, and there was no outside interference, that the ordinary curve, upward trend would be as great as your average?

A. Not at all.

Q. It would be less, wouldn't it?

A. It would be less, I should think.

Q. If the cause of the abnormal condition, it is higher than the ordinary trend, is that not giving it to the utility an advantage that it is not entitled to, and at the same time giving a consequent disadvantage to the public?

A. No, I can not see that. The utility can only be governed by conditions as they find them; they cannot rectify conditions over which they have no control. Labor has enjoyed abnormally high rates all during the war period, by reason of the unfortunate way in which the government allowed labor to be competed for on its own work. It has enjoyed that; labor is organized today; they are going to resist any encroachment upon

the prices which they have received, and it is going to be a very difficult matter, in my judgment, to dislodge labor or to reduce labor prices to anything like the pre-war basis. Now, as labor is a big element in the cost of all materials, but not the total element, materials are naturally going to stand somewhat above the pre-war level. I may say high labor always stimulates invention to reduce the element of labor cost of production. I believe therefore that there is going to be a gradual recession of material prices due to improvements and due to the lower cost of raw material itself, but in view of the higher labor which is going to exist, never going to return to the pre-war basis, the price level of materials is going to remain higher, in other words, that there is going to be a permanent set below which it will not fall.

Q. Exactly. Now then, you made for the Hackensack Water Company in 1913 an elaborate valuation of its property for the purpose of fixing rates?

A. Yes.

Q. You know that on that basis the rates were fixed in 1913?

A. Yes.

Q. You would not contend now that the fair value then found by you was not the fair value to-day?

A. Yes, I would.

Q. Can't all the elements you speak of, the increased cost of labor, the increased cost of material, be taken care of in an enlargement of the rate of return on the base you then fixed in 1913?

A. It could be; I admit that, I admit that.

Q. Isn't that the practical way of treating with this subject as an economic problem, to fix a base that is as nearly normal as possible, and vary the rate of return with the changed conditions?

A. I do not think the variation of the rate of return is the proper way to take care of increased operating expenses and increased taxes, nor do I think that the variation in the rate of return should be made to do

anything except to cover the change in the cost of money, financing.

Q. But the operating conditions or operating expenses are allowed as they are, if they are abnormal.

A. Yes.

Q. They must necessarily. They are not considered at all in the rate of return.

A. That is true.

Q. But by establishing your base, normally fixed, can't the needs of a utility be more fairly met by increasing the rate of return for the purpose of securing new capital?

A. Well, when you say more fairly, you mean more fairly as between the public and the company?

Q. Exactly, and fair to both the public and the company, with no advantage to either.

A. Well, no. I think there are two elements that enter into that. I think, looking at it possibly from the public viewpoint, there is very little to be gained, because one way or another the ultimate consumer has to pay only so much in any event.

Q. Pardon that interruption.

A. If you will pardon me just a minute.

Q. I predicated my question on the fact it would be more fair to the consumer and public, not with the idea of gain to the public or the utility.

A. I was going to take that up in both ways.

Q. But, in the solution of this economic problem which is confronting us. I want your best thought on it.

A. That is what I am trying to give, is my best thought. I started out to say that in the interest of the public there is nothing to be gained one way or another. The problem as it presents itself to me is this: It matters not whether a utility be publicly or privately owned, if the economic management of that property is correct and the charges properly chargeable to that plant are made, the ultimate consumer must bear the cost, which cost includes the interest, fixed charges,

operating expenses, taxes, depreciation, or refunding the sinking fund, as the case may be. If you place a higher valuation on the property and a lower rate of return, or place a lower valuation and a higher rate of return, you come to the same ultimate end, as far as the consumer is concerned.

The other problem is this: If you place a value upon a utility in a high market, which is based upon a very much lower market, and the owners of that property have through condemnation or some other cause departed with that property, go into the market and sell, then you are taking away a portion of their vested right, by evaluating that property too low. The ruling of this Commission in regard to the values of these properties is going to be turned to in almost any case that comes up, whether it is a question of rates, purchase and sale between a municipality and the company or what not.

Q. You know, as an engineer, however, that the Courts that have repudiated the doctrine that a valuation can be made that will be suitable for rate purposes, condemnation purposes and tax purposes.

A. No, I think not.

Q. That there are various elements that enter into peculiar difficulties of each.

A. I think the Courts are very divergent in their views on that. But I have on that particular thing most decided views.

Q. Yourself?

A. Yes.

Q. (By Mr. Wherry.) You follow the Supreme Court of Maryland?

A. I am following the Supreme Court of Maryland, and there are other decisions that are equally strong.

Q. (By Mr. Herrmann.) You cannot cite one from the United States Supreme Court, however, because there the doctrine has beeen repudiated. Now, then, isn't this a fair summation; that originally you engineers in solving these problems to determine the fair

value of the property, took not only the cost to reproduce, but endeavored, in finding the fair value of the property, to find the amount of money that had actually been invested, in other words, historical cost, the relation which the outstanding capitalization bore to that, and then added to it what you believe the utility was entitled to, to get the present fair value of the property; that because of the abnormal situation created by the war, the cost to reproduce has become the least important factor to determine fair value, having regard to the interest of the public and the utility both at the same time.

A. No, I do not feel that way. I think the various elements enter into it, but I fail to see how at this day or date you can form any estimate of the value of a property on the historical method alone.

Q. I agree with you on that.

A. It is absolutely necessary to make a reproduction estimate. I think the problem before the engineer today is to determine not what the reproduction cost is, but what the basis, the price basis of the reproduction cost should be, whether it should be the ten-year average price from 1912 to 1921 or ten years from 1909 to 1918, or what average, covering that period of low and high, will give the nearest approach possible to what would be the price level in 1930 if you could look back and make an appraisal of the property.

Q. Now, then, let us assume your theory in a case such as this: A utility is developed in lean territory at a very great expense, so that the cost to reproduce would be in excess of anything upon which the company could earn a fair return by charging rates that the public would pay; what would you do under those circumstances?

A. Well, I have not touched upon the question of the worth of the service to the consumer. I think the decisions of the Courts, particularly of the Maine Courts, have been very definite and clear in that respect, that the measure of the value of the service is the cost

of the service, unless it can be shown that the cost of the service is in excess of the value of the service to the consumer. Now, that would be a case which I should say would pre-suppose that the cost of the service was in excess of the value of the service to the consumer.

Q. So that, with that in mind, you have to know the earning capacity of the property before you derive its fair value, in other words, you have to apply the test of the rates to the base that you use?

A. No, I think you get at it the other way. I think the only fair way to approach this subject is first and foremost, divorcing every other question of the worth of service, the fair return, the gross revenue, anything that would confuse the mind in reaching the conclusion as to fair value; you have first got to make your estimates to see what represents the fair value, taking, if you can get it, the actual cost by this historical method, taking reproduction estimates on a fair basis, and weighing all the facts as you have them before you, determine the fair value. Then I think the next proposition is the determination of the fair rate of return, the operating expenses, taxes and depreciation. You arrive at a gross sum and you make up your rate schedule from that. If that produces an amount which is in excess of the worth of the service to the consumer, then it is a question of arbitrarily bringing the cost down to the worth.

Q. That is, the cost of the service?

A. Yes, down to the worth.

Q. How could you bring the cost of the service down to the worth of the service?

A. By giving the company less than a fair return on the fair value of the property, because of over-building or mistakes in construction or for any other reason.

Commissioner Osborne—Then they might say that was confiscation.

Witness—But that question of the worth of the service to the consumer is a thing that does

not enter in any normally-built-up community; it is a thing that very rarely, if ever, arises in cases of this kind.

Q. In calculating the rate of return, what regard did you give to the normal rate of return made by the company under voluntary rates imposed by it?

A. We computed those. I do not know whether I have that data with me or not, but I can submit a table which I have on that very question.

Q. Will you do that, please?

A. Yes.

Q. (By Commissioner Osborne.) It would be very much easier to meet the fluctuations in the economic world by adjusting the return rather than the base, would it not?

A. I believe it would.

Q. A more convenient method?

A. Yes.

Q. (By Mr. Wherry.) Mr. Hill, we actually tried to work that out before the Maryland Commission, with that schedule that we have now used as a modern Commonwealth case.

A. That is precisely what I had in mind, to make an adjustable schedule which would enable the Commission to vary the rate of return through the discount payable.

Q. You cannot do that until you have got a base that is more or less stable, which is acceptable.

A. That is true.

Commissioner Osborne—The only question I think that Mr. Herrmann wanted to develop was whether it would not be wise—if it would not facilitate the handling of the whole problem—after you had established a base, then to vary the rate of return instead of varying the base.

Mr. Wherry—That is what we tried to do in Maryland.

Commissioner Osborne—How has it worked down there?

Mr. Wherry—It has worked pretty well for two or three years. The Commission deliberately adopted a little higher valuation than they would have under the old method. They did it for two reasons, for two considerations: They said first, the company ought to be able to finance better if the security was there and would assure the investor that the security was there, and then they wanted to stabilize it.

Commissioner Osborne—They worked out something along the same idea, differing in detail, on some of these mid-west trolley lines, Cleveland.

Mr. Wherry—Yes, Cleveland has done it. I have tried a great many different ones in different places. We have tried making a fluctuating schedule that would vary with a particular element like gas oil or coal. We find that does not work, because the minute you pick out one element, then some other element becomes very important, like taxes.

Commissioner Osborne—It ought to relate to the whole.

Mr. Wherry—It has got to relate to the whole, and then, of course, you have got to get your base fixed first so the owners of the property will accept it and then so the communities will accept it.

(Adjourned until Wednesday, October 19th, Kinney Bldg., Newark, at 10:45 A. M.)

BOARD OF PUBLIC UTILITY COMMISSIONERS,
NEWARK, N. J., Wednesday, October 19, 1921.

ELIZABETHTOWN WATER COMPANY ET AL. APPLICATION FOR INCREASE IN RATES.

Before the following Commissioners: J. J. Treacy, Esq., President; Harry V. Osborne, Esq., Harry Bacharach, Esq., L. E. Herrmann, Esq., Counsel; P. Betts, Esq., Chief Inspector; J. P. Petty, Esq., Inspector; H. E. Carver, Esq., Inspector.

For Elizabethtown Water Company et al. appears: W. M. Wherry, Esq.

For City of Elizabeth appears: Joseph T. Hague, Esq.

For Union Township appears: John K. English, Esq.

For Dunellen and Piscataway Township appears: R. P. F. Von Minden, Esq.

Nicholas S. Hill, resumes the stand on behalf of Elizabethtown Water Company.

Further cross-examination, by Mr. Herrmann.

Q. Mr. Hill, in volume three of your appraisal, on which the basis of the inventory is submitted, material prices are alleged to have been based on the average cost for ten years, from 1909 to 1918 inclusive; that is right, is it?

A. Substantially, yes.

Q. And labor prices based on the current labor costs during the year 1918?

A. Yes.

Q. Why do you differentiate in your base between materials for the period 1909 to 1918 and use the labor prices prevailing for 1918 alone?

A. The theory upon which I did that was, I believe that there will be a gradual diminution in the price of materials, and I took the average prices for that period as more fairly representing the permanent increment of

prices prevailing hereafter than would be the current prices of 1918.

On the question of labor, my judgment is that there will be no such recession in the cost of labor. I figure that labor to-day has—I will put it this way: that labor, according to all of the records, has lagged behind in the increase in the cost of commodities, that is, the pay of labor has, and the pay of labor hasn't increased as the cost of living, that labor will naturally lag with the fall of prices. Moreover, that labor is organized to-day and it has enjoyed a changed scale of living and that with the education that labor is receiving and the children of labor is receiving, which calls for a more refined mode of living than was the case when education wasn't so general, coupled with the close organization, that labor is going to resist every attempt to refute. In the next place, due to the falling off of immigration during the war period, I am satisfied there is going to be a demand for labor as soon as business opens up which will stiffen the market price of labor rather than reduce it.

Q. When was this valuation made, as of what date?

A. The original valuation was made as of January 1st, 1919.

Q. Now, then, haven't the developments with reference to the recession of the prices of materials as well as the price of wages, and the number of men out of work, changed your opinion from that of 1919?

A. No. It has strengthened my opinion. As a matter of fact, all skilled labor to-day is higher than it was in 1918. There has been practically no reduction, or very little reduction in the price paid in a great many of the trades. Common labor in spots is somewhat lower but even the common labor market is spotty. I mean, in some places common labor is getting as much and in other places almost as much as they got in the war period. Other places they are getting less. I believe the condition is a temporary condition.

Q. What figure did you use for common labor in 1918?

A. We used the labor schedule as set forth there. Common labor we used at three dollars per day.

Q. Actually what is common labor receiving to-day?

A. Well, it is receiving—well, I can give you my own experience. In work which we are now doing at Mamaroneck the labor on the job is receiving fifty-five to sixty cents an hour. On the Oradell Dam which is being constructed and is nearly completed now, they are paying labor at the rate of forty-five cents an hour, as I recall it.

Q. What are they paying on the Wanaque Dam in this state, do you know?

A. I do not. The labor we are employing in Westchester county we are paying fifty cents an hour to. As I say, the wages of labor vary very, very much with the local conditions. In some places you can get labor cheaper, others higher. I don't know of very much labor that is receiving as low as three dollars a day at the present time. In some of the county departments where labor is retained and paid every day in the year whether they have work for them or not, labor is accepting a lower wage than the market price. In that event, possibly, you could get common labor for, I should say, three to three dollars and a half a day.

Q. In your opinion, don't you think with labor organized as it is and bearing in mind and having in mind the present industrial crisis, don't you believe the wage of labor is going to recede beyond the point that it existed in 1918?

A. I do not.

Q. What was the skilled labor receiving in 1918?

A. In 1918 skilled bricklayers were receiving eighty-seven and a half cents an hour, and caulkers seventy-five cents an hour; cement finishers, eighty-seven and a half cents; hoisting engineers, one dollar; painters, seventy-five cents; plasterers, eighty-seven and a half cents; stone cutters, seventy-five cents; and stone masons, eighty-seven and a half cents.

Q. How do those prices compare with the prices that are at present being paid?

A. Well, as far as I know the prices to-day are uniformly higher in the metropolitan districts than they were at that time. I have had before me recently the record of the prices paid by the Contractors' Association of New York, which gives the scale of wages, and my recollection is they are uniformly higher than the rate in 1918.

Q. I do not find in your appraisal the prices which you used for pipe cutters, pipe caulkers and pipe fitters, which, of course, constitute a very large proportion of the labor.

A. The unit price allowance in estimating the cost of laying pipe is, foreman, $4.75; labor, $4.00; caulkers, $4.50; a horse and wagon or a horse and cart, eight dollars a day and for hauling we allowed one dollar a ton mile. That gives you the units, I think, which enter into it.

Q. Now, then, if you will turn to account 106.

A. In the inventory.

Q. The inventory. The water diversion rights are estimated at five thousand dollars at Hammock and at twenty-five thousand dollars at Springfield. On what basis was the estimate made?

Mr. Hague—What page is that?

Witness—That is on page 58.

A. When this company commenced operations, or subsequent to their commencing operations, would be more correct, at the pumping stations there were claims made by adjacent property owners that the water in their wells and system was being lowered, and as a result of that, the company sunk a number of wells on the property to restore the water which the adjacent property owners had formerly obtained from the wells. There are quite a few of those wells which were put down. That I think is what those figures represent, in part at least. I will get the total here in a moment. Well, the base cost of the wells which were put in by the company to obviate damages for diversions amount to fourteen thousand dollars, the base cost amounts to $14,280.

Q. Where are you getting that figure from.

A. That figure is from my detailed computations. If you would like to have a copy.

Mr. Hague—Can it be found in here?

Witness—No. If you would like to have a copy of that estimate, we would be very glad to furnish it to you.

Q. We want more than that. We would like the location of the wells, size of the wells, necessity for the wells, and the actual cost of the wells.

A. That information is given in this form: "Township of Union, on property of Dennis Long, Union Avenue, north of Vauxhall Road, six-inch well, fifty feet deep and then it went in rock fifty feet.

Q. Couldn't you ascertain from the books of the company what was actually paid for those wells?

A. I can't answer that question offhand. I assume possibly we could have found that.

Q. If you could furnish me then the location of the wells, the size of the wells, if they are not all contained in your inventory and appraisal, the amount actually paid and the basis of your estimate?

A. Yes.

Mr. Hague—And the depth of the wells.

Mr. Herrmann—That is what I asked.

Witness—That is all given. The only information I haven't at hand is what was actually paid. I will obtain that if possible.

Q. Now, refer to account 109.

Mr. Hague—May I ask if we may have a copy of that one you submitted to Mr. Herrmann?

Witness—Yes.

Q. For twenty-two wells at Hammock and thirty-two wells at Springfield, the uniform price of $6.75 per foot was used?

A. Yes, $6.75 a foot.

Q. You don't claim that these wells have no variation in their physical characteristics or as to the length

of casting, or depth of rock, or length and character of the stream, do you?

A. No, sir.

Q. There is a variation, is there?

A. Yes.

Q. How do you apply the uniform price of $6.75 per foot to wells that have these variations?

A. We took a fair average price, what we assumed to be a fair average price.

Q. Give me the basis of your assumption, to find out whether that is fair.

A. In the first place we figured prices, as far as we could, that had been paid by the Elizabethtown Water Company, and we also got quotations from responsible well contractors, more particularly from Phillips and Worthington, who are a well-known well-drilling firm.

Q. Did you seek to ascertain the physical characteristics of the wells at Hammock and those at Springfield?

A. As I say, no one knows in advance just what is going to be encountered in driving a well. As a rule the well drillers regulate their prices of driving at so much per foot in earth and so much per foot in rock, and that is an average price.

Q. What thickness of rock strata did you estimate?

A. In each case we took the history of the wells, as far as we could develop it, and segregated the price, the drilling into earth and rock.

Q. What strata of rock?

A. For instance, if you have the inventory before you, on page eighty-one you will see the depth of wells given and the length of casing, which represents the earth and the depth of rock, stated in the case of each well.

Q. But you have used the same unit prices regardless of the depth of the wells?

A. Yes.

Q. As a matter of fact, the deeper the well the more expensive it is, isn't it?

A. Well, I couldn't say that.

Q. In other words, you wouldn't apply the same unit prices to a fifty-foot well, as you would to a hundred-foot well?

A. The chances are a fifty-foot well the unit prices would be higher than a one hundred-foot well.

Q. As a matter of fact, isn't it your experience, the deeper wells the last foot particularly costs more because of the length of haul in getting the earth up?

A. Up to a certain depth a contractor's figures, if he has to move his machine so often and other expenses that are incurred on a shallow well, it makes the drilling of a deeper well cost less money than a shallow well. When you get beyond a certain depth (I wouldn't want to give the point), the expenses go up again.

Q. Did you take that into consideration in making your estimate in reference to these sixty odd wells?

A. As I testified we obtained the conditions under which these wells were drilled as closely as possible, and used what we considered a fair, average price which is $6.75 per foot. In other words, we could have applied a varying cost per foot for each different well under each different condition and obtained the sum total, and divided it by the number of feet of well, and got an average price per foot. We didn't go to that refinement. We exercised our judgment and applied what we considered was a fair average price.

Q. That is the only basis of your estimate?

A. Yes.

Q. Did you seek to ascertain what the cost of driving these wells was?

A. Yes. I just told you we had the cost where we could get it from the Elizabethtown Water Company.

Q. How did the cost compare with your unit prices?

A. The cost was lower.

Q. How much lower?

A. Our prices were about thirty-three and a third per cent. higher than the paid prices.

Q. Turn to account 121, please. Were the farm buildings at Springfield station mentioned there already

in place at the time that the property was acquired, or were subsequently erected?

A. Account 121?

Q. 121.

A. To what do you refer?

Q. The farm buildings at Springfield station, were they already in place at the time the property was acquired or were they subsequently erected?

A. I will look that up in just a moment. As I recall, and from the best information I have at hand, the engineer's house and the fireman's dwelling—the engineer's house was built subsequent to the development of that plant. The fireman's house was on the property but was added to by the water company. There were two additions made to the firemen's house.

Q. How about the chicken houses?

A. The chicken house was built subsequent to the acquisition of the property.

Q. Are all these buildings used and useful for water purposes.

A. Yes; they are used by employees in the Springfield pumping station. Only those buildings that are used in that way are included. In other words, the pumping station is somewhat remote and the company furnishes these dwellings, as is very common in a great many water plants. For instance, the City of East Orange has eight or ten houses they maintain for their employees at the pumping station.

Q. Does the valuation placed by you on the property bear a reasonable relation to the rental value?

A. I couldn't say that.

Q. You made no tests of that?

A. No.

Q. On what basis is the estimate of the buildings per cubic foot made?

A. We have estimated the cost of a great many buildings of a similar kind and reduced it to their cubic-foot basis, and in this particular case we applied a unit which we thought was fair for that type of building.

Q. For what period of time do the prices apply or—

Witness—Will you wait a moment, Mr. Herrmann; I was looking up something for you. My answer was correct in regard to the dwellings, but we made detailed estimates of the pumping station buildings at Springfield.

Q. Detailed estimates of the value?

A. Of the cost, yes.

Mr. Hague—What page is that on?

Q. As to what time the prices applied?

A. At what time?

Q. Yes.

A. The same period as the remainder applied.

Q. 1909 to 1918 as to materials and 1918 as to labor?

A. Yes.

Witness—What was your question?

Mr. Hague—The page of the inventory.

Witness—The detailed estimate?

Mr. Hague—Yes.

Witness—The detailed estimate is not given in the inventory.

Q. Turn to account 122, what was the basis used by you in obtaining prices for equipment?

A. The manner of obtaining the prices used in the inventory for steam power pumping equipment was wherever possible to secure the price actually paid for the unit, and we also secured current quotations on the cost of similar units, and we also investigated the average prices of similar machinery over different periods and applied a price upon the machinery which, in our judgment, we felt represented the average price of that machinery for the periods, ten-year period preceding 1918.

Q. Will you give me one illustration of one piece of machinery showing that method?

A. Well, I haven't got the correspondence and other details here with me. I can only outline the method. For instance, take a Babcock and Wilcox boiler, for

example, at the present pumping station; if it could be secured, the price paid for that boiler, we did so from the vouchers of the company, and we also wrote to the Babcock & Wilcox Company and secured quotations from them on the current price of that boiler, the same identical type of boiler. We had in the office quotations on boilers and cost of boilers of a similar type, on the horse-power basis over a long range of years. It is hardly—there would not be a year in which there were not quotations on boilers current during that year.

Q. Did you follow that procedure with that specific method as to each part of the equipment?

A. Substantially so, yes. I won't say in every little detail, but in all of the elements which were material in amount, material in cost that we have done.

Q. Could you tell me then how much above cost the prices of the equipment would amount to?

A. I couldn't give you that in each individual case without going back to the data, which I haven't here; but if you care for a statement, I would be very glad to furnish it with the actual cost of those elements on which we could get the actual cost and the cost that we applied.

Q. There is no other method by which the reasonableness of your judgment can be gauged without knowing—

A. I would be very glad to do that if you want it.

Q. Yes.

Mr. Hague—Also the pumping machinery?

Witness—Yes. I mean the steam power pump and equipment. Any data we found we could secure from the vouchers we would be very glad to furnish.

Q. Where you found among the equipment a unit that has been in use for upwards of forty years and has been rebuilt, what was your method of dealing with that?

A. I think I have already stated the method of dealing with that.

Q. If you have—I wasn't present; that is all right.

A. Yes. It was also stated in volume three, *Exhibit P-4.* I can refer you to the page.

Q. It is all right if it is in the testimony. Account 128, the Chilton reservoir, was to be used for emergency purposes only?

A. Yes.

Q. What emergency service is rendered by that?

A. That reservoir is kept in service at all times so in case of a break in any of the principal transmission lines or any shortage of the water stored in the reservoir, this can be used for distribution in Elizabeth.

Q. Hasn't, as a matter of fact, its value for water supply purposes almost ceased?

A. I don't think the reservoir is exceedingly valuable. I don't think we so valued it. I would like to look that up just a moment. I knew we took that into consideration in placing a valuation on it.

(Case now heard before Commissioner Harry V. Osborne, Esq., and Harry Bacharach, Esq.)

Witness—We depreciated that reservoir, the Chilton Street reservoir sixty-seven per cent. from the estimated cost of reproduction.

Q. Sixty-seven per cent.?

A. Yes.

Q. Did you allocate that to the fire protection service?

A. Now, I would have to look that up. I don't recall offhand. I very much doubt it. I don't recall. I have regarded that reservoir as a safeguard and protection until such time as an increased supply of water can be brought into Elizabeth.

Q. Wouldn't its principal value be in fire protection where it is situated right in the midst of the city, a large volume of water which could be used in a moment?

A. The difficulty with the reservoir at the present time is its altitude. It is not sufficiently high to give good service pressure.

Q. There is a pump installed right on it by which they can force it through the mains?

A. They can force it through the mains, but I mean to use it as a gravity reservoir it is too low an elevation, but it would be very serviceable in case of an emergency.

Q. Accounts 127 and 128, please. What was the source of your information in respect to the rock excavation and pavement, mains and services?

A. Did you say 127 and 128?

Q. 127 and 129.

A. In making all of these inventories and estimates, we obtain the best information we could get from the street foreman of mains, or the main foreman who has the longest and most intimate acquaintanceship with the mains of the particular company under consideration. We also secure information where practical from the city engineer's office or the fire department or some local contractor who had worked on cellar excavations and work of similar nature.

Q. Could you tell me what you included in your unit prices for rock excavation in these accounts?

A. Yes. Just a moment. I may answer your first question a little more definitely. You asked me the unit prices for rock excavation?

Q. Yes. Never mind, it is shown here.

A. It is shown.

Q. How much rock did you estimate on, that is the important factor?

A. Is that in the transmission or the distribution system?

Q. Transmission.

A. We estimated on the Bound Brook main on a total of 2,300 feet of rock excavation.

(Recess taken of ten minutes.)

AFTER RECESS.

Mr. Herrmann—If the Commission please, I have just talked this over with Mr. Wherry. The cross-ex-

amination of a valuation expert is always tiresome and lengthy, it is mainly to ascertain the reasonable accuracy of his bases as well as his method and the prices used. Mr. Wherry is willing I should submit to Mr. Hill a list of the questions, and they might be incorporated in the record, as well as the answers to them, as submitted by Mr. Hill to the Board.

Commissioner Osborne—Something similar to interrogatories?

Mr. Herrmann—Similar to interrogatories and save the time of the Court, and they could be made part of the record, with the provision Mr. Hill will present himself for further cross-examination at any subsequent time, and a copy of those answers and questions to be submitted to the attorneys for the municipalities, to be examined by their engineer.

Commissioner Osborne—Do you gentlemen agree to that, in order to save the time of everybody?

Mr. Wherry—It is agreeable to me.

Commissioner Osborne—I understood from Mr. Herrmann you were agreeable. I am addressing myself to the other parties.

Mr. English—Furnish it to each municipality.

Commissioner Osborne—I understand the question will be propounded by Mr. Herrmann in written form to be answered by the witness and to become a part of the record, copies to be furnished to counsel, and the witness will hold himself in readiness for further cross-examination upon the matters involved in those questions and answers.

Mr. English—We will all receive copies both of the questions and answers.

Commissioner Osborne—Yes. Not the questions and the answers. The questions after they have been answered, not before. You won't receive the questions before they are propounded to the witness.

Mr. Wherry—Suppose they want to add some questions to them? I would just as soon they do that if

we can shorten it, otherwise they will have to submit interrogatories.

Commissioner Osborne—Mr Herrmann could submit his questions to the other side with the suggestion if they thought of anything he hadn't thought of, to add to them as the questions of Mr. So-and-So and the whole could be forwarded.

Mr. Wherry—It seems to me that would save time.

Commissioner Osborne—They just want to know what the other standing is.

Mr. Wherry—If the witness receipts his question with his answer, and when the answer comes to the old municipalities, then it won't be necessary.

Mr. Herrmann—In other words, the several municipalities have the questions and answers before them seriatum. I don't know that that is objectionable.

Witness—No.

Mr. English—If Mr. Herrmann submits the questions and answers but none of the municipalities know what the questions are, it will be unintelligible.

Commissioner Osborne—When you get the final result, you will get the questions and answers. That is the only thing we will refer to in the record. I am not going to take the record and look back at some questions to be found on some other page. You will get the answers. They have to be arranged ultimately in the form of questions and answers. The stenographer can take that by reference to the questions furnished. and fit it in.

Would you like to have the questions which Mr. Herrmann proposes to propound to the witness before they are submitted to the witness so that you may examine them and if you so desire add any further questions, or do you wish to wait until the questions and answers are in?

Mr. English—I don't care about having them sent to me.

Mr. Hague—I don't know what Mr. Herrmann's questions will be and I don't know whether we will want

to supplement them. I suppose we will have to have them to know whether we want to supplement them.

Commissioner Osborne—There is no harm in taking a day or two of additional time in sending them to you.

Mr. Herrmann—We can get them off by to-morrow.

Commissioner Osborne—Take it up with counsel.

Mr. Herrmann—With Mr. Hague.

Commissioner Osborne—Send them to Mr. Hague and if he wants to add anything to them he can add it. There will be no repetition if he has the questions before him.

Mr. Hague—We would still have an opportunity for further cross-examination of Mr. Hill if the answers did not cover the entire subject.

Commissioner Osborne—If you desire.

Witness—I can answer those questions, I think very much more satisfactorily for the purposes of the other side than by doing that on the stand, turning over from page to page and jumping around you are apt to make errors.

Mr. Hague—As I understand it, those questions we would propound would be along the line of the same subject matter Mr. Herrmann was examining on.

Commissioner Osborne—It is cross-examination of the witness with relation to the base prices; is that right?

Mr. Herrmann—The method used in making his inventory and appraisal.

Commissioner Osborne—The method used in making his inventory and appraisal.

Mr. Herrmann—And the manner in which his unit prices were built up.

Mr. Wherry—I have no objection to the municipalities submitting questions also that are pertinent to cross-examination. I might object to the question as being incompetent or not pertinent. I might also object to any of Mr. Herrmann's questions. I don't anticipate

they are going to ask questions that are not going to be of help in the case.

Commissioner Osborne—The advantage of the municipalities having Mr. Herrmann's questions before he asks the question is, it may avoid repetition. If Mr. Hague sees a question already asked, he would not ask that.

Mr. Wherry—In that connection, as to the day labor prices this company is paying, you did ask for that in one of your questions?

Mr. Herrmann—You might properly come back in rebuttal afterwards.

Mr. Wherry—I was going to ask whether you are going back to some of these things I have here, whether we could include those you have asked here; you have asked nothing about day labor prices, also data as to the wells and cost of equipment, and whether the Chilton Avenue reservoir was allocated as fire service.

Mr. Herrmann—Yes.

Mr. Wherry—Can we put the answers to those questions in our answer?

Mr. Herrmann—Yes. I am going to have all the questions I have asked to-day included in those so as to make the cross-examination complete.

Mr. Wherry—All right.

Commissioner Osborne—Then will there be any further cross-examination to-day, or will this conclude the case as far as your case is concerned?

Mr. Wherry—Mr. Hague, you wanted to cross-examine Mr. Hill in addition?

Mr. Hague—Yes.

Commissioner Osborne—On other matters?

Mr. Hague—Yes; on other matters and probably some—

Commissioner Osborne—You are prepared to do that to-day, are you?

Mr. Hague—I thin so. Of course we had drawn on different lines.

Commissioner Osborne—It is becoming very painful having these things drag as they do. By the time we get to the last hearing, with a multiplicity of other hearings, we hardly know what the first was about, and we have to go back over the record. Now a lot of time has been set aside for this one case and we ought to finish it.

Mr. Hague—I am not asking for adjournment.

Commissioner Osborne—You said you were not ready to go on to-day.

Mr. Hague—I said on other questions.

Commissioner Osborne—You said you were not ready to complete your examination.

Mr. Hague—I am not ready, in the face of what has been asked I couldn't be ready. Mr. Hill isn't ready to complete his answers to the questions propounded already.

Commissioner Osborne—How far can you go to-day?

Mr. Hague—I don't know.

Commissioner Osborne—If you were trying a law suit, you would never try it in any such manner.

Mr. Hague—The testimony in this case has not been put in as in an ordinary law suit; the company has prepared all this documentary evidence and submitted it in a lump, and it has taken months and months to prepare it and the municipalities at least ought to be given a reasonable time to go through this.

Commissioner Osborne—I thought we had by having an adjournment for that purpose.

Mr. Hague—Yes; we have had one adjournment for that purpose.

Commissioner Osborne—Of quite a little length of time. Well, proceed as best you can. Have you any further cross-examination, Mr. Herrmann?

Mr. Herrmann—If they desire cross-examination in place of the method suggested, yes.

Commissioner Osborne—No. This is cross-examination independent of the matters to be taken care of by the interrogatories.

Cross-examination, by Mr. Hague.

Q. Mr. Hill, on your table in exhibit four, on which you give the cost of materials and labor, on the prices given by you, are those for the beginning or ending of the year?

A. They are the average.

Q. For the whole year?

A. Yes.

Q. Were the prices of materials fixed by the Government during the year 1918?

A. Well, now, I don't recall.

Q. You don't know. If they had been fixed by the Government, the prices during the year 1918 would have been substantially the same throughout the year, would they not?

A. Well—

Commissioner Osborne—It depends on how long the Government prices had been in effect. Do you know whether they were substantially the same during the year?

Witness—I would have to look that up. I don't remember all the details for the year.

Commissioner Osborne—You don't know, do you?

Witness—No.

Q. Will you look it up and let me know?

A. Yes.

Mr. Wherry—I object to that.

Commissioner Osborne—Can't you look that up just as well as the witness can and come back here with that information? It seems to me the extent that witnesses are asked to do things of that character—

Mr. Hague—This witness has testified to average prices.

Commissioner Osborne—I think it is perfectly proper on cross-examination to ask that question and get an answer. You got an answer to the question; he don't know. That is your answer.

Q. Have you changed your method of valuation of public utility properties within the last five or six years?

A. No. I should say not.

Q. Mr. Hill, you testified in 1918 as an expert for the Commonwealth Water Company in their application for an increased rate, did you not?

A. I did.

Q. Do you recall submitting an exhibit in that case in which tabulation you gave comparisons or estimates of laying pipe in different cases that you have been in, including the Utica case.

A. Yes.

Q. And that was a purchase and sale case, was it not?

A. The Utica case?

Q. Yes.

A. Yes.

Q. You represented the city?

A. I represented the city of Utica.

Q. I think you have testified in this case it is your belief that the present prices are not going down, substantially?

A. I don't think I made as broad a statement as that.

Commissioner Osborne—I thought he said they were going down; they haven't gone down very materially yet in some particulars.

Q. The price of labor, then?

A. I don't believe the price of labor is going to recede materially?

Q. But the price of materials are?

A. I believe there will be some recession in the price of materials.

Q. I ask you to examine this exhibit (handing witness blue print) and ask you if that was the exhibit you submitted in the Commonwealth case, as to prices?

A. Well, I assume it is. I have nothing here to compare it with. I don't recall.

Q. You recognize those prices, do you not?

A. I don't recognize those prices there.

Q. They were during 1918?

A. They might have been.

Q. When was it you testified in the Commonwealth case? You recall testifying in the Commonwealth case that "in the Utica case you took the average of the present prices, just the same as in this case (the Commonwealth case) which price is high, of course, and we used the figures or a figure a little in excess of the average costs during the last ten years."

A. I may have said that but I don't remember just what I said in the Commonwealth case.

Q. Do you still agree with that?

A. Will you read that again?

Q. "In the Utica case we took the average of the present prices just as in this case (the Commonwealth case) which price is high, of course, and we used the figures or a figure a little in excess of the average cost during the last ten years."

A. I don't know how I can answer that question. I agree with it now.

Q. What was the price in Utica, 1918, as you have it in that tabulation in the Commonwealth case?

A. Price of what?

Q. Pipe laying.

A. What size pipe?

Q. The size you have got there, that you submitted in that; six-inch.

A. I have twenty-four-inch pipe at $4.25 per foot; twenty-inch pipe, $3.68 per foot; sixteen-inch pipe, $2.80 per foot; twelve-inch pipe, $1.81 per foot; ten-inch pipe, $1.51 per foot; eight-inch pipe, $1.24 per foot; six-inch pipe, ninety-four cents a foot.

Q. And that was at about the same period you made this appraisal, was it not?

A. Not at all. These prices are all based on ten-year average prices, I think; that is my recollection.

Q. Up to and including 1918?

A. No; I don't think so. I can't answer that definitely without looking up to see just what the dates were.

Mr. Wherry—You state this paper is an exhibit in that case?

Mr. Hague—Yes. I have the testimony produced in the Commonwealth Water case, taken April 25th, 1918, before this Board where this witness was testifying.

Witness—Of course, Mr. Hague, I am testifying here in 1921 on the appraisal that was made in 1919. I don't recall—

Q. This appraisal was made in 1918, was it not?

A. I can't answer that. I don't think so; I don't know.

Q. This appraisal in the Elizabethtown case was made as of 1918, was it not?

A. It was made as of January 1st, 1919.

Q. Up to and including the year 1918.

A. Yes.

Q. And you testified in April, 1918, in the Commonwealth Water case before this Board, didn't you?

A. I assume that is correct; I don't remember the date.

Q. I show you the testimony in that case (handing witness copy of testimony) and ask you what you testified to as to the price there?

Commissioner Osborne—The price of what?

Mr. Hague—Of the laying of pipe, cast-iron pipe, before this Board in April, 1918.

Commissioner Bacharach—Laying the pipe or the cost of the pipe itself?

Mr. Hague—The cost of the pipe laid.

Commissioner Bacharach—This is supposed to be the price?

Mr. Hague—That was an exhibit submitted o this Board in the same case, the Commonwealth case, at that time.

Commissioner Osborne—Supporting his testimony?

Mr. Hague—Supporting his testimony, submitted by him.

Commissioner Osborne—What you want him to do is read from the record?

Mr. Hague—Yes; I want him to say what he testified to at that time.

Mr. Wherry—We still don't know the date of that appraisal.

Mr. Hague—The date of the testimony is on the outside.

Commissioner Osborne—You know this isn't the proper way to ask a question of this kind.

Mr. Hague—If your Honor please, haven't I a right to show if this witness testified before this Board with relation to a similar case at that time?

Commissioner Osborne—Yes, you have a right to show he testified to some other proceedings in a contrary manner from the manner he is presenting it now. There is a very well-defined method of doing that. You should ask him whether on such and such a date he testified to certain facts. Don't hand him a record and ask him if that is what he said. Ask him whether he didn't testify to that and refresh his recollection from it; "did you at that hearing testify as follows"; give him the date of the hearing.

Q. On April 26th, 1918, in the matter of the Commonwealth Water Company increase of rates before this Board, you testified: "In the Utica case we took the average of present prices, just as in this case, which price is high, of course, and we used the figures or a figure a little in excess of the average cost of the last ten years."

Commissioner Osborne—Did you so testify? What is your recollection?

A. Am I to assume that is a correct transcript? I don't remember what I testified to at that time.

Commissioner Osborne—You don't remember? Then what you probably would say would be, you don't remember?

Witness—I don't remember.

Commissioner Osborne—That is a transcript of the record.

Witness—I presume it is correct. I don't say I didn't, or anything of the kind. I presume it is correct.

Q. Do you recollect what the price was you figured on in that case?

A. I certainly do not.

Q. Do you recognize the exhibit which I showed you in the Commonwealth case?

A. Yes; we put in an exhibit similar in form to this one. I believe this is a correct copy. I haven't any reason to think otherwise.

Q. What is the price there of the pipe laid in Utica?

A. I have just given you all the prices.

Commissioner Osborne—This speaks for itself.

Mr. Hague—Yes.

Q. What was it in the Commonwealth?

A. In the Commonwealth we allowed for a twenty-inch pipe, $3.49 a foot. The eighteen-inch pipe, $3.06.

Commissioner Osborne—You needn't read the exhibit again. It speaks for itself.

Witness—I was asked—

Commissioner Osborne—What he asked you about is sufficient.

Q. Is the cost of pipe land in Utica more expensive or less than the average cost of pipe laid in the City of Elizabeth?

Commissioner Osborne—When?

Q. In that same period, as of the same date?

A. I wouldn't want to answer that question offhand.

Commissioner Osborne—Would an examination of this exhibit refresh your recollection?

Witness—No, sir; I would have to go back and compare the length and quantity of different materials and other things. I don't pretend to

carry these detailed figures in my head for years. I wouldn't have any room for anything else if I did.

Q. Did you testify in the Commonwealth case on the same date, "I think the cost in Utica is in the vicinity of $27 per ton for pipe, if I am not mistaken."

A. I presume that is correct.

Q. How does that pipe compare with the price you have quoted for Elizabeth for the same period?

A. I used $32.50 per ton in this appraisal.

Q. For the pipe?

A. Yes.

Q. What is the cost for pipe delivered in the same period you have covered for the City of Elizabeth laid?

A. What is that again?

Q. How much have you estimated the cost of the six-inch pipe laid in the City of Elizabeth for the same period of time as quoted in the other case?

A. Well, I haven't figured it that way. I have the detailed figures for the period corresponding to the Utica period.

Commissioner Osborne—Mr. Hill, if you estimated pipe at $27 in 1918, why do you estimate $32 in 1919?

Witness—I don't recall, your Honor, the date of the appraisal of the Utica Consolidated Water Company. I don't know whether the period for which that price range was given is identical with the period in the Elizabethtown case. My recollection is that the Utica appraisal was made as of January 1st. The next thing is—

Commissioner Osborne—They were each over a ten-year period.

Witness—I used the average of prices for ten years prior to the date of the Utica appraisal, in that appraisal.

Commissioner Osborne—You know whether it was the same ten years?

Witness—I do not.

Commissioner Osborne—If it was a different ten years it might account for the difference in price.

Witness—That would, although I testified the other day that $32.50 a ton is a little in excess of the average price as shown by the vouchers of the Elizabethtown Water Company for the ten-year period considered in this report, and I did that because I believed $32.50 represented the minimum to which pipe will go. I thought it was a fair figure to use under all the circumstances and conditions that are now existing.

Q. Mr. Hill, you were testifying in this case, in the Commonwealth case, were you not?

A. Yes.

Q. And you were making comparisons with Utica, were you not, in that exhibit?

A. Yes.

Q. And in your testimony you said you took the average of the present prices, just as in this case, in the Commonwealth case?

A. Yes, I took the average.

Q. So that was in 1918, and it was so at that time, was it not?

A. I have taken, I think, constantly in every appraisal I have made, I have taken the prices for the ten-year period as the basis for my appraisal.

Commissioner Osborne—Terminating when?

Witness—Taking the ten years preceding the date of the appraisal. You must remember that the effect of the rise of prices during the war was not so much in 1918 because the price of cast-iron pipe did not commence to go up until August or September, 1916. That was where the sharp rise occurred.

Q. The price of that pipe delivered in Utica would cost more than delivered in Elizabeth, would it not?

A. Well, I am not prepared to say that.

Commissioner Bacharach—It would depend on whom you purchased it from, wouldn't it?

Witness—Yes.

Commissioner Osborne—Assume it came from some district around Pittsburgh, would there be any material difference?

Witness—I haven't in mind what the relative freight rates are from the pipe shippers to Utica and to Elizabeth. In other words, I would have to make a guess, Mr. Commissioner, that is all.

Q. I will ask you if you testified on the same date and in the same case as follows: "Rail rates make a difference in Utica, make it cost more; labor conditions make a difference, conditions of excavation make a difference, conditions of paving in congested districts."

Commissioner Osborne—What is the question?

Q. Did you so testify?

A. I presume that is correct. No two towns are just alike.

Q. At that time you were of the opinion that the cost of pipe in Utica would cost more than it would to the Commonwealth?

Mr. Wherry—I object to that. That is what the witness said, and it is not a fair question on the basis he laid.

Mr. Hague—He testified that "rail rates make a difference in Utica, make it cost more." He did testify to that.

Mr. Wherry—I beg pardon.

Q. You also testified on December 29th, 1915, in the Hackensack Water Company case before this Board, did you not?

A. What date?

Q. December 29th, 1915.

A. I presume that date is correct.

Q. You testified in the Hackensack Water Company case?

A. Yes.

Q. You then testified in that case, "Q. What is your opinion as to the value of the property of the Hackensack Water Company as of that date? A. Twelve million dollars. Q. What is the basis of that value? A. The basis of that value is the study which I have made of the property, the investigation which I have made of the books of the Company and the analysis of the book cost; the quantity surveys of the actual existing structures and estimates made from that quantity surveys, plus a consideration of the elements of value inherent in the property in addition to the actual unit costs. Q. Did you try to ascertain the reproduction new value of the property? A. Yes. Q. And did you ascertain the accrued depreciation of the property? A. Yes. Q. And from the reproduction new did you deduct the accrued depreciation? A. Yes. Q. What, in your opinion, was the reproduction new value of the property? A. That is the present or depreciated value of the property, $11,928,023."

Commissioner Osborne—What has all this to do with the present issue in this case?

Mr. Hague—I want to show, your Honor, his method of valuation in those cases as compared with his methods of valuation in this case.

Witness—Your Honor, I might say it is identically the same; that is a precise description of what I have done in the Elizabethtown case, identical.

Q. "In arriving at that value did you use more than one method of making the valuation, Mr. Hill? A. Yes. Q. What methods have you used? A. The method which I have used in making that valuation has been, first, to carefully analyze and study all of the book costs available and from these costs to determine, as far as possible, the actual value of the various elements, or actual cost of the value of the elements of the property, to which I have added a proper allowance for the structural overheads and intangibles. I have also made

a reproduction estimate of the cost of the various elements of the property as a check upon the actual book cost. Q. In making the reproduction estimate, what method have you followed; the historical method or the method under present conditions? A. The method which I have followed, has been really, you might say, a combination of the two. I have assumed that the cost was not necessarily the hypothetical of a plant reconstructed new as of this date, and I have modified all my costs, as far as it was practical and rational to do so, by a comparison of the reproduction estimate of the actual cost of the plant. So while I get a reproduction estimate new, that reproduction estimate new is modified so that the cost, as far as possible, is compared with the actual cost of the construction of the plant. Q. In arriving at your value have you taken into consideration the investment of the company? A. I have also determined investment value of the property for the purpose of determining the equity of the company in the property. Q. Have you taken into consideration the earnings which the company has made during the period of its existence? A. Yes, I have taken into consideration the earnings, the development cost, going cost as well as the donated services, donated property, in fact all the elements of value entering into it, special rights and privileges possessed by the company. Q. In forming your opinion then of the value of the property you have carefully combined and considered all these different elements you have mentioned? A. I have. Q. These different factors? A. I have." Did you so testify?

A. I presume that is a correct transcript.

Mr. Hague—I want to offer this blue print as an exhibit.

Commissioner Osborne—Is there any objection?

Mr. Wherry—You say that is an exhibit in the Commonwealth case?

Mr. Hague—Yes.

Mr. Wherry—I have no objection. I would like to fix the date.

Mr. Hague—It has been marked. If you want me to get the original from the files—

Mr. Wherry—No.

Commissioner Osborne—He just asked you for the date.

Mr. Wherry—The date when the appraisal was made was of what date? Not the date of the testimony but as of what date the Commonwealth appraisal was made; if you can furnish that.

Mr. Hague—This is exhibit P-87 of the accountant's report and it is marked on the base of it *"Exhibit P-86* of the Commonwealth rate case."

Recess from one to two o'clock.

AFTER RECESS.

N. S. Hill resumes the stand.

Cross-examination, by Mr. Hague (continued).

Q. Mr. Hill, I just want to call your attention to another answer of yours in the testimony of April 26th, 1918, in the Commonwealth Water Company, on page 1643. "It has been my custom to adhere neither to the so-called reproduction method or the historical method. I believe both can be ridden to death and have been ridden to death. I have always taken costs as I could find them on the company's records as the best evidence of cost, modified by what judgment dictated was necessary." Is that correct?

A. I presume it is, yes.

Q. Did you add overhead charges to the present values of the land?

Commissioner Osborne—In which case?

Mr. Hague—In the Elizabethtown, in this case.

A. Yes.

Q. Why?

A. Because of the expenses involved in acquiring the land.

Q. Are you familiar with the Minnesota rate case?

A. Yes, I have read it.

Q. In that case, didn't Justice Hughes eliminate that charge?

A. Well I would not want to quote that case offhand, I mean to say, take a particular clause and say that Justice Hughes did that or that, without reading the whole case, having what he stated in reference to his opinion in its entirety.

Q. Did you add the overhead charges to the value of the water rights?

A. What?

Q. Did you add the overhead charges to the value of the water rights?

A. Yes.

Q. And why did you add that?

A. For the same reason, because of the expenses involved in acquiring water rights.

Q. Do you know whether the same ruling applied in the Minnesota rate case?

A. I say, I would not want to quote that case without looking it up.

Q. Is your appraisal of this property based upon the reproduction of all the property within a period of a few years, or is it on the basis of building up piecemeal as this company actually did the work?

A. Well. I have taken both into consideration.

Q. Which did you use?

A. Both. In the case of each constituent company, I have set up the actual capitalization, the book value of the property as shown by the books, the investment as nearly as I could determine it, and reproduction estimates on different bases, and from a study of all of those results, as I have testified before, I formulated my judgment of the value of this property.

Q. Isn't your rate base the actual figures of reproduction cost?

A. Only after comparing the results produced by my reproduction estimate with the investment and with the actual cost of the plant, and comparing that estimate with costs on other price bases. I do not know whether I have made myself clear in that matter or not. It seems to come up continually. But you will notice that in every one of these companies I have set up not only the reproduction estimate on the price basis used in the detail—with which the detailed inventory was priced, but I have compared those with reproduction estimates for other periods, showing what the effect would be of a reproduction estimate on the pre-war basis, on the basis I used, and on current prices, 1921, and in conjunction with that I have shown the book cost as shown by the balance sheet and also have tried, as nearly as I could, to reach the investment in the property, and I have also shown the capitalization, and all those figures are there for comparative purposes.

Q. (By Commissioner Osborne.) And were all used by you in reaching your determination?

A. Yes.

Q. What is the result of your having set up that comparison and these different matters which you speak of, with relation to the reproduction cost?

A. The result is that the reproduction estimate which I made on the price basis used in the inventory is somewhat less than the average of all of the other figures, that is, if you take the investment and the value of the plant on a pre-war price basis, or a pre-war price basis plus the actual cost of improvements, subsequent to 1914, and on the other basis, my estimate of the value that I placed upon it would fall somewhat below the average of those figures.

Q. Then it would fall below the reproduction cost?

A. Well, it does not fall below the reproduction cost on the price basis which I used, but that price basis produces a result which is somewhat below the average of all of the bases.

Q. It will fall below the cost of the present day reproduction?

A. Much below; much below.

Q. (By Mr. Hague.) I do not know whether I quite understand you. I will ask this question, Mr. Hill; in making your cost of reproduction of this property, did you consider that all the property was built within a few years or on the basis of building it piecemeal?

A. Of course, on the reproduction estimate I assumed the property was built within a few years; I allowed a reasonable time for the construction of the property.

Q. (By Commissioner Osborne.) In other words, if a property of that character would take normally five years to reproduce from the time it began until it reached its completion, you assumed on the reproduction theory a period of five years?

A. Yes.

Q. (By Mr. Hague.) And about what period did you figure?

A. I think it was—I do not know that I recall the exact period offhand, but I think it was between two and three years.

Q. Wasn't it four years?

A. Maybe I can answer that for you by looking it up. No, I think it was less than four years, that is, the weighted average time; of course some elements more than others.

Q. If it was less than that period, how did you figure interest during construction, for organization, twenty-four per cent?

A. Well, the first costs that are incurred in a property are the organization expenses and from the time that the property is first organized up until it was operating might have been four years.

Q. You actually did figure it four years, by computing that twenty-four per cent. there, didn't you?

A. Well, I say I am not positive as to just the period, but the average time to complete the plant, the physical elements of the plant, was not as long as that.

Commissioner Osborne—The question of counsel seems to be directed to bringing out this information: whether twenty-four per cent. which apparently you figure for interest during construction does not indicate in itself the fact that you used that figure—whether that does not indicate that you figured four years as the total time; isn't that right?

Mr. Hague—Yes.

Commissioner Osborne—Now you say in your answer, without answering that question specifically, you say that four years was not the average time.

Witness—No. That particular item, I think this figure would indicate the assumption that from the time the organization expenses were incurred until the completion of the plant covered a period of four years.

Commissioner Osborne—But your interest indicates that you figured six per cent. on the whole amount, where apparently you should have figured six per cent. on the original amount, and then on the various amounts as they were expended, each growing less of course as the period terminated.

Witness—Yes.

Q. Are you familiar with the method which the company used in computing its operating expenses?

Commissioner Osborne—I am wondering whether it would not be well, if that question of interest is of any particular moment, if it was of sufficient importance to occupy any time on it, whether it would not be well to pursue it to its completion. We have simply left it now in the air. You have shown apparently, if I understand the testimony, that he figured interest on the full amount for the full period of four years at six per cent., and he says that it should not be figured that way, at least that is the de-

duction we reach from his testimony. If that is so, should his estimate be corrected, or should it just be left in this unsettled situation.

Q. Mr. Hill, have you the records showing when these structures were built or were to be built?

A. You mean the actual date of construction?

Q. These present structures, yes.

A. The actual date of construction as nearly as we could determine it is given in the inventory.

Q. (By Commissioner Osborne.) Mr. Hill, taking what you have just said about interest, do you think that your estimate with regard to interest should be modified at all?

A. No. I do not. I think I can make that clear for you.

Q. Why not?

A. The organization was figured on the four years, for organization expenses; the interest on organization expenses was figured on a four-year basis. On real estate and rights of way it is from two to two and a half years.

Q. The interest was figured two to two and a half years?

A. Yes. On the impounding dams and reservoirs, on Ursino Lake, one year, and on Salem and Faitoute reservoirs three months, so on every element of the plant the interest charges are computed on the basis of about the period that would be consumed in completing them.

Q. What do you mean then by saying "on the four year basis?"

A. I mean to say, we assumed it would be four years from the time the first money was spent in organizing the company, to the completion of the plant.

Q. You do not mean to figure interest on the whole amount invested on the whole period of four years?

A. No.

Q. I think the trouble with your testimony was you left it in such shape it would leave that inference. That

brings us back to the fact as to whether twenty-four per cent. on the whole amount does not indicate that you did, in fact, figure your interest on the whole amount for the full term of four years?

A. No. I did not, and I think that will be shown on the table of overheads, table number five in volume three, exhibit P-4. You will notice that the only item in which there is twenty-four per cent. interest charged up is on the organization. On the real estate it is twelve per cent. and on the rights of way it is fifteen per cent.

Q. Then the implication of counsel's question that twenty-four per cent. was the amount on the whole investment for the whole period of four years is not borne out by the facts?

A. No.

Q. If that was the implication, and that was the impression I got from it.

A. Yes.

Q. (By Mr. Hague.) Have you the data which shows how you arrived at the time required to reproduce these various units?

A. No, I have not the data with me in shape to present.

Q. Can you produce it?

A. I could produce it, yes.

Q. (By Commissioner Osborne.) What form would that data be in?

A. It would be in the form of an outline which would indicate the exercise of the best judgment that we could exercise.

Q. What would be the basis for the outline; your engineering experience or fact?

A. It would be experience in construction of similar plants.

Commissioner Osborne—So in that sense he has it with him; he has his head here and his experience and can answer your question. An engineer, I suppose a competent water engineer,

knows how long it ought to take to build a certain kind of plant. It may be he has supplemented that experience with actual deeds or data or contracts or what not for construction, and that he might produce that if he still has it. The chances are if he used it, he turned it back to the company when he was through with it because it would be part of their record.

Witness—I can, I think, give the outline.

Mr. Wherry—Can you give it now? Have you got it?

Witness—No, I haven't it here.

Mr. Hague—I ask it be produced, that Mr. Hill produce it so we can have an opportunity of looking it over.

Commissioner Osborne—I suppose you want that on the assumption that your engineer says that four years is not a proper basis to reproduce a water plant of this kind. If your consultant says that is a reasonable assumption, why go into it, because you do not get anywhere when you get through. It either is or is not, and any competent engineer experienced along this line ought to be able to advise you as to that. I do not want to cut you off, but it does not seem to me to be necessary to go into things that are not leading up anywhere, unless you have a good basis for believing you are going to dig up something.

Mr. Hague—We will ask one of two questions in line with that. We will ask one or two questions covering the same subject matter and probably we won't require that.

Q. (By Mr. Hague.) I ask you to turn to *Exhibit 4*, table number five. Have you got it?

A. Yes.

Q. I call your attention to item 130, service pipes and stops. Have you the item?

A. Yes.

Q. You have nine per cent. interest during construction. How do you arrive at that?

A. Well, that is on a six per cent. basis. That would be equivalent to allowing one and a half years for putting in the service pipes.

Commissioner Osborne—What page is that on?

Mr. Hague—On table number five, *Exhibit 4*, following page four, the third page after page four.

Q. Would that mean a three-year period of construction for service pipes and stops?

A. It would mean a year and half; oh, no, that would mean a three-year period, yes—no.

Commissioner Osborne—You said *Exhibit 4*, didn't you?

Mr. Hague—*Exhibit 4*, volume three; it follows after page four, the third page after page number four, item 130, service pipes and stops.

Q. How long did I understand the interest charge of nine per cent. covers, how long a period of construction?

A. I would have to look that up for you.

Q. Can't you tell?

A. I will tell you I would prefer to look it up.

Mr. Hague—If your Honor please, this is submitted here by this witness as his estimate, and we go into the items, and it cannot be explained without being looked up. It seems to be one item after the other the same way.

Commissioner Osborne—That is not at all surprising because here we have a great mass, a number of exhibits containing a great mass of information, going into very considerable detail and giving innumerable figures.

Mr. Hague—But this is based on engineering judgment, and your Honor said a minute ago engineers were expected to know those things.

Commissioner Osborne—I said he would be expected to know whether it would take one year,

three, four or five years to build a certain type of plant.

Mr. Hague—That is the question I asked.

Commissioner Osborne—No. You asked him whether this particular figure of nine per cent., you asked him what length of time that was based on, and he said he would have to look that up.

Mr. Hague—What period of construction it covered.

Commissioner Osborne—Yes.

Mr. Hague—That is in line with the previous question.

Commissioner Osborne—It is in line with it, but that is one of the details and he says it is a detail and as far as this particular detail is concerned he would prefer to look it up rather than answer from memory.

Mr. Hague—Didn't he say it was based on judgment and it was a matter in his own head?

Commissioner Osborne—He said he had an outline which he could produce here. If you ask him whether or not this is what he now would say was his judgment, regardless of this figure, he can probably give you an answer.

Mr. Hague—I would like an answer on that point.

Commissioner Osborne—But you are asking him as to this particular item. He says his recollection will not enable him to answer.

Mr. Hague—I cannot ask him collectively.

Commissioner Osborne—No, you can ask him about this. If he says he cannot answer it, he will have to refer to his data.

Mr. Wherry—We might be able to get that by referring to this assistant now.

Commissioner Osborne—Have you it here? It would take a superman to remember every figure in all the exhibits.

Mr. Hague—It is their exhibit. How are we to understand it?

Commissioner Osborne—They are not objecting to answering it. They are simply saying, we want to look up the data upon which it was based. The witness does not like to answer a thing from memory, if it is based on computation, and then be confronted with a contradiction in his testimony.

Q. Can you answer it, Mr. Hill?

Commissioner Osborne—Have you looked it up?

A. The item of service pipes and stops, I mean the item of interest during construction on service pipes and stops, was figured on a three-year basis, on the assumption that it would take three years to construct the distribution system and put in the service connection.

Q. And is the same thing true of hydrants?

A. All of the distribution system.

Q. Do you think it would be necessary to take three years to put those hydrants in?

A. I don't know that it would take three years to put the actual hydrants in, but on the distribution system and the service connections as a whole, I think in the development of a property of that kind, that three years would be a reasonable allowance.

Q. (By Mr. Betts.) May I ask a question right there? You assume in this calculation that the plant would not start operating at all until it is all completed with all the customers connected up?

A. Not necessarily, Mr. Betts. I have ceased long ago to go into every little detail in an assumption of that kind, and tried to hit broad, reasonable averages. I have assumed that from the time the plant was first started until it was practically complete, and the distribution system, service connections and hydrants were all set up to the point where they now are, was a going

concern, that it would cover a period of about three years, in other words, that they probably would build the distribution system in the heart of the city and then extend out, and of course they would cover the whole territory that was covered by the system now.

Q. (By Commissioner Osborne.) You do not assume they could not furnish any water at all until that hypothetical system was complete, do you?

A. No.

Q. (By Mr. Hague.) This company has, say thirteen or fourteen thousand customers. In building a plant of this kind, wouldn't it be customary, as soon as it was possible, to supply a quarter of the customers, the first two or three thousand say, wouldn't the aim be to get some part of the plant going, supply their customers and take the others on gradually?

A. I think that is true.

Q. If that is so, would it mean that the average for all customers, that the service pipes would lay unused, that that average time would reach to a period of a year and a half, some three years, and some a day, averaging a year and a half?

A. I think on the average it would.

Q. (By Commissioner Osborne.) What average did you take?

A. I have taken New Orleans' experience as one of my glides. That is the only place I know of where a plant was actually built and installed—

Q. New Orleans?

A. Yes. Actually built and installed after a city had grown up of any appreciable size.

Q. Where is that?

A. New Orleans. There they built a plant absolutely on the reproduction theory. The city had an old water works that was not used, and they started from the source of supply right down to the last distribution main and meter.

Q. Going back to Colonel Betts' question: If it would take three years to complete this distributing sys-

tem, but if during that period of time, during the progress of construction you were able to serve, at the end of, we will say, one year, one-third of your customers, and at the end of two years, two-thirds of your customers, and at the end of three years all of your customers, would it be fair to charge this whole rate of interest for the whole period of three years?

A. Not under those conditions, no.

Q. Aren't those the normal conditions that you find in reproducing a water plant?

A. Well, I do not think that is the condition that you will find.

Q. I understood you to say so, in answer to Colonel Betts' question a minute ago.

A. No. I said I thought it was fair to assume that there would be a certain number of customers, a certain amount of revenue derived as the plant was built.

Q. If that is so, then why is it fair to charge the full rate of interest for the full period of time which, in theory, it takes to construct this distribution system?

A. Well, I don't know that I have done that very thing. That is, I have done the equivalent of that thing. But the question is whether in three years a plant like the Elizabeth plant would be enjoying the full income from all the customers they now have.

Q. We are dealing with principle now, not with the number of years. Change the figures to four years and change the percentage of users as you like. The point is, if you are going to use that plant, that distributing system sometime during that period with greater or less degree, and get an income from it, is it fair to charge your interest for the full amount for the whole period?

A. No, I think not.

Q. You have done that, haven't you?

A. No. I say it appears that way, but I have only assumed three years, where as a matter of fact, it might take six. It is the equivalent of doing the other thing, taking part of the interest and applying it for a longer time.

Q. You say you met that very situation by striking an average in the time of completion?

A. Yes.

Q. In other words, you figured on three years on the theory that it was less than the probable time it would take to complete the plant?

A. Yes; it would have brought about the same result.

Q. Whether that is so or not, I do not know of course.

A. What?

Q. I say, whether your theory is correct or not, I do not know. I do know what other engineers might say as to the time it would take to build that kind of a plant.

A. I presume there would be a difference of opinion there.

Q. (By Mr. Hague.) Mr. Hill, is it your theory that these service pipes and stops would be put in gradually covering a period up to three years, but the plant itself would not actually start to run until the completion of all of the service pipes?

A. No; that is not my theory. I think that the normal assumption would be that as—

Q. If that was the theory, then half of the stops would be for a period of a year and a half, would they not—rather, the stops would be for an average period of a year and a half?

A. That would be true if you take these figures as absolutely representing a period of time; but that is not my way of getting at this at all.

Q. How did you arrive at this nine per cent., which would cover a period of three years?

A. My estimate is that nine per cent. would be a fair amount to allow as the interest during construction on that part of the plant, assuming that it would develop normally and would get customers normally. Now, in taking three years, I feel that I have allowed a reasonable amount for the interest which will accrue

during construction. In other words, I doubt very much if there were no water plant in Elizabeth to-day and a water plant were installed there, if they would get the equivalent revenue from all of their customers in three years' time; very much doubt it.

Q. Well, you are assuming that the plant is started when there is a very small population and builds up, are you not?

Commissioner Osborne—No; his answer did not assume that. His answer assumes the building of a plant in Elizabeth to-day under present conditions. That is what he says.

Witness—My reproduction estimate is based on that theory.

Q. Could the city of Elizabeth get along without a water plant to-day?

A. I did not say it could.

Q. If it was reproduced to-day the people would be waiting for the water, would they not?

A. No. That is not the situation under which a plant is reproduced at all.

Commissioner Osborne—You see this reproduction theory in ninety-nine cases out of a hundred presupposes a condition that does not and cannot exist; never does exist except as the witness says, the only case he knows was New Orleans.

Mr. Hague—It capitalizes present conditions in favor of the company.

Commissioner Osborne—They only resort to that method, as I understand it, in the absence of a better method to follow.

Witness—In order to reproduce, you have to assume that there is no existing water plant, because if you assume a water plant built in competition with an existing one, of course no one would come in.

Q. Assuming that the city of Elizabeth, as it is to-day, had no water plant, and a water plant was being installed there—

Commissioner Osborne—Everybody had a cistern like they did some years ago.

Mr. Hague—Yes.

Q. (Continued)—do you assume it would take a period of three years before the company would be able to sell any water at all?

A. No; I have said not; no.

Q. Why do you figure this nine per cent. here?

A. Because as I say, I think nine per cent., which represents a period of three years, during which interest would have to be paid, is a reasonable assumption of the interest accruals during the period, not necessarily that it would be three years exactly when all the consumers were on. It might be six years, it might be seven years.

Q. And it might be a year and a half?

A. If I had assumed six years, it would have meant that my interest would have been thirty-six per cent.—I mean eighteen per cent. instead of the nine per cent., but I took a shorter period and took the full interest on the shorter period.

Q. You could carry that same theory out to twenty years, I suppose, couldn't you?

A. Yes, indeed; oh, yes.

Q. As a matter of fact, Mr. Hill, didn't these pipes all go in as they went in, within a period of a month, and the consumers immediately took water from them?

A. Which pipe, the Elizabeth?

Q. Yes.

A. I am sure I don't know.

Q. Isn't that the way the extensions are usually made by water companies?

A. As a rule the extensions of the existing water plant are made in response to a request from people who are building houses, for an extension.

Q. And isn't that the way it has been done right along in the Elizabeth plant?

A. I absolutely do not know every detail of the development of the Elizabeth plant. I presume their

mains were extended in response to applications for extensions to mains, from houses building.

Q. As the demand required?

A. Yes.

Q. And they did not pay any interest charges on them at all?

A. Pay any interest charges on the mains? I don't know what they did.

Commissioner Osborne—They must have had their capital invested.

Mr. Hague—I beg your pardon.

Commissioner Osborne—They must have had their capital invested in those mains.

Mr. Hague—For a very slight period.

Commissioner Osborne—What say?

Mr. Hague—For a very short period.

Commissioner Osborne—It could not have been for a very slight period. You cannot buy and lay mains overnight.

Mr. Hague—You can lay them in a month or less, an extension down one street.

Commissioner Osborne—Yes; that is down one street. That may be an extension, but I am talking about—

Mr. Hague—I am talking about extensions.

Q. Isn't that how the plant has really been built up for the past sixty years?

A. No; not the way you named. I have made an investigation in a number of plants as to how the revenues on main extensions accrued.

Q. How about this plant?

A. I have just said, I don't know, on this particular plant. But we find that there are a great many extensions—I think on the Hackensack system there were twenty-five per cent. of the extensions that were made that were not paying the interest on the investment at the end of ten years.

Q. Did you make any investigation in this plant?

A. No.

Q. Why didn't you make an investigation in this plant?

A. Well, I don't know. I had no reason to make it.

Q. You were going into the question of the value of the plant, were you not?

A. Yes.

Q. Appraising it?

A. Yes.

Q. Wasn't that one of the things to be considered in arriving at that?

A. I did not think it was necessary.

Q. Then you figured it was only necessary to figure in your mind what should be allowed for interest on the cost of construction, and fix it at three years?

A. I think I used, exercised my best judgment as to what was the fair allowance.

Q. And took the full limit of time?

A. No; I did not take the full limit of time.

Q. Does the interest on construction mean the time that the pipe is to be in until the time it brings in a full return?

A. Not necessarily, no.

Q. Isn't that what you meant when you spoke of the Hackensack case?

A. Yes. What I meant to indicate was that in these water plants, on extensions they have to carry interest on the construction for a very much longer period than appears. In other words, there are twenty-five per cent. of the extensions on the Hackensack water system for example, where the company has to carry interest on extensions for a period of ten years or longer.

Q. You are figuring from the time they are put in until the time they are completed?

A. Until they earn the interest, and of course who has to pay that is the company. That is just as much a charge as any other charge.

Q. There are a great many mains paying over twenty per cent. and some paying over fifty per cent., aren't there?

A. Well, I don't know many that are paying over fifty per cent. Some mains from the very beginning pay twenty-five or thirty per cent., thirty-five per cent.

Q. Wouldn't the two even up, pretty near?

Commissioner Osborne—In what case?

Mr. Hague—The one where—

Commissioner Osborne—In which case?

Mr. Hague—I am talking about the Hackensack case that he was talking about.

A. Why, I don't know that I have ever made an examination to see whether the total revenues from extensions over a period would cover all the extensions or not.

Q. Wouldn't the ones that did not pay—the ones that were paying more than offset the ones that were not paying?

A. I don't know that.

Q. Pretty near even up?

A. I don't know that.

Q. Have you ever given it any thought?

A. No; I have just said I did not do it.

Commissioner Osborne—You are talking about the Hackensack case now, aren't you?

Mr. Hague—Yes.

Q. You did go into it to the extent of finding out some had not paid for ten years?

A. Yes.

Q. Mr. Hill, how much of the service pipes and stops are owned by the consumers in the city of Elizabeth, paid for by the consumers?

A. There is a statement here that I want to get that gives just the percentage. I may say that none of the service pipes that are not owned by the company, for which the company did not pay, are included in the inventory; no property of that kind.

Q. Did you take the actual cost of the service pipes?

A. No. We estimated the cost of it the same way we estimated the remainder of the plant.

Q. All of the items as shown in the red book here, the inventory, were estimated the same way, were they?

A. Yes.

Q. On average prices for ten years, for a period of ten years down to and including the year—

A. The year 1918.

Q. —down to and including the year 1918?

A. Yes.

Q. All of the items?

A. Yes; and labor on the 1918 current prices.

Q. Everything is included in there excepting the additions since?

A. That is correct.

Q. January 1st, 1919?

A. That is correct.

Q. And those were taken at actual costs?

A. Yes.

Q. Prior to that at average costs?

A. Yes.

Q. (By Commissioner Osborne.) Can you tell us why you differentiated with respect to labor?

A. I think I explained that this morning in answer to Mr. Herrmann's question. It is on the record. If you care to have it repeated.

Commissioner Osborne—No.

Mr. Wherry—You can state it over again.

Witness—We have a total of $7,437 base cost for services in Elizabeth, service connections in Elizabeth.

Q. (By Mr. Hague.) How much was that?

A. $7,437.

Q. Service pipe paid for by the individuals?

A. Yes; that is the base cost, yes.

Q. What is this $14,908, table six?

A. I beg your pardon. That is in Elizabeth proper. Then there is to be added to that Linden and the surrounding territory. What I mean is, the seven thousand dollars was in Elizabeth proper, that is the cost of service connections in Elizabeth proper. If you want the others, I will give the others.

Q. Is it $14,908?

A. In the township of Clark we have a base cost of $121, the city of Elizabeth $7,437; in the township of Hillside, $1,982; in the Borough of Linden, $688; in the township of Linden, $3,673; in the Borough of Roselle, $26, and in the township of Union $1,047, making a total base cost in all of these civil subdivisions of $14,908. I thought you asked me the question as to services in Elizabeth, how many were owned by the consumers.

Q. How did you get the number of services owned by the company in the city of Elizabeth?

A. From the records of the company.

Q. And those records gave the cost of putting them in, did they not?

A. No; I cannot say they had costs on individual services.

Q. Did you see the records?

A. Yes, I saw the records. When pipe was bought for service connections and labor was used, it was charged up against the service pipe account.

Q. Are you sure it does not show the cost?

A. I say, when the pipe was bought and the labor was used, it was charged up on the books to the cost of service connections, but I do not remember seeing any individual construction costs on individual service connections.

Q. (By Commissioner Osborne.) It was charged in the general account?

A. It was charged to the account of service pipes and stops. I presume we could have gotten the number of service pipes installed in the period and the total charges to that account, and divided one by the other and probably gotten the average cost of service connection, but inasmuch as the book value of the plant is shown on the balance sheet which is presented in this exhibit before the Commission, in these exhibits before the Commission, we did not go into that particularly, because we used their book value.

Q. When were the coagulating basins and filters of the company built?

A. That was built about three or four years ago. I think I can give you the exact date. That was built during 1919, I believe.

Q. (By Mr. Wherry.) What date?

A. 1919.

Q. (By Mr. Hague.) Are you sure?

A. It may have been just a little before that.

Q. Wasn't it included in the appraisal of January 1st, 1919?

A. Yes.

Q. Then it must have been built before, wasn't it?

A. If you will let me look that up a minute I will see.

Q. I call your attention to page 121 of your inventory.

A. I have got the page that this is on.

Q. What does it say there, your note: "The base cost of reproduction of the foregoing items has been estimated by taking the book cost of Ursino Lake filter plant as of January 1st, 1919, and allocating same to account 115, 117 and 125 on the basis of engineers' estimate of the construction cost for the plant."

A. Yes.

Q. Was it built at that time?

A. I am trying to recollect.

Q. You were the engineer that built it?

A. Oh, yes; I was the engineer that built it. But if you think I walk around this country with about fifty-five million figures in my head on each of these plants I look after, you are very much mistaken, because if I did, I would not have room to think.

Q. Would you have included it in this inventory as of January 1st, 1919, if it had not been built?

A. Yes, I might have done that if the plant was nearly complete at the time, and I thought it would have been completed by the time the inventory was used, I might have included it. My recollection is that plant was built in either 1918 or 1919.

Q. Have you included any such property as you speak of in this appraisal that is not yet built or finished?

A. The only property of that kind that would have been included would have been a portion of the Ursino Lake filter plant. I was going to look that up when you interrupted me to see how much of it we actually allowed for. I may say, Mr. Commissioner, that that plant was built by contract and the contract was awarded before this appraisal was made, so that if there was any addition subsequently, it would be rather in the way of extras paid the contractor, and the amount that was included in the inventory might vary to that extent, and that would be taken up in the statements that are given in this report for the years 1919 and 1920.

Q. The item did not go in twice, did it?

A. I hardly think so; if it did, it was through inadvertance; I have no idea it was in twice.

Q. Haven't you testified you have included all the work done after January 1st, 1919, at cost?

A. Yes.

Q. And that was in addition to what was in this book?

A. Yes.

Q. You testified that everything that was in this book was put in at average cost?

A. Well, yes; I testified to that .

Q. Didn't you testify to that a few minutes ago to me?

A. Yes.

Q. Is this in here at actual cost or is it in here at average cost?

A. This is in here at the contract price for which it was built at the time.

Q. At the actual cost?

A. Yes, sir.

Q. Then this item of $11,926 is not the average cost?

A. No.

Q. And you were wrong when you said that all the items in there were at average cost?

A. I have repeatedly said in my testimony that substantially, that I have not gone into every detail.

Q. You said every item that was in there was at average cost, did you not, to my question, about five minutes ago?

A. I may have said that; I do not recall just what the answer was. There is a portion of the filter plant only charged in in this inventory, not all of it.

Q. I did not hear that last.

A. I say there is a portion of the filter plant charged in, not all as I see it there.

Q. Is the same thing true of the coagulating basin?

A. I Include the coagulating basin as a part of the filter plant.

Q. You speak of it together?

A. Yes; speak of it as a whole.

Q. What was the total cost of it, of the coagulating basin and the filter plant?

A. The total figure does not seem to be given in either of these tables. I presume I can get it by adding it together.

Q. What is each figure?

A. I am going to get that for you in a moment. The base cost was about sixty-seven thousand dollars.

Q. Of the whole thing?

A. Yes.

Q. Coagulating basins?

A. Coagulating basins and filter plant.

Q. What other construction was made during 1918?

A. That was not all built in 1918. There is only twenty-nine thousand dollars of that that was put in prior to January 1st, 1919.

Q. What other work was done? There was twenty-nine thousand dollars for the filters?

A. And eleven thousand dollars for the coagulating basin.

Q. $11,926?

A. Yes.

Q. About fifty thousand dollars?

A. Yes. $11,926 and $29,791. That coagulating basin was not finished on the first of January, entirely complete.

Q. About forty thousand dollars total?

A. I should say so.

Q. What other work was done during the year 1918?

A. None that I know of.

Q. What I am getting at; is there anything else in addition to this plant that was work done in 1918, which might appear in the inventory and might not?

A. Not that I know of.

Q. You don't know of any other? Are you familiar with the method which the company used in computing its operating expenses?

A. Computing them?

Q. Yes.

A. I do not exactly understand your question. They do not compute them.

Q. Allocating them?

A. Yes.

Q. Do you know what proportion of the salaries of officers and employees of the company were paid out of the construction fund last year?

A. No.

Q. Was any of the officers' salaries in that?

A. I don't know that.

Q. Wasn't all of the superintendency of construction done by some member or officer of the company?

A. That is a question that I cannot answer offhand.

Q. Who was it done by on this filtration plant and coagulating basin? You were in charge there; who was it done by?

A. Who was what done by?

Q. The superintendency done by?

A. By a representative of our office. I had a resident engineer on the job.

Q. During 1920 what do the books show that was paid for superintendency?

A. I tell you, I cannot answer that question offhand.

Q. Do you not know that all of the officers' salaries and salaries of clerks who did the accounting was charged directly to operating expenses?

A. I have just told you I cannot answer the question offhand.

Q. Wouldn't it be part of your duty in making this appraisal to find out whether that was so or not?

A. It would be my duty, I presume, in making this appraisal to have a correct and accurate statement drawn from the books, and for that purpose, as I testified before, I had Mr. Coote.

Q. Then you did not investigate that part of it at all?

A. I am not and do not pretend to be an expert accountant and I did not go over the books individually for the purpose of drawing off the operating statement and the revenues.

Q. What depreciation have you deducted from the value of the service pipes of this company?

A. Well, if you will turn to table six you will see that the total value of service pipes and stops—

Q. What exhibit is that?

A. Table six, *Exhibit P-4,* volume three. You will see that the cost of reproduction of service pipes and stops is $17,741. Column ten of that table, if you will turn to table seven, following page ten, you will see $17,741.

Q. Which is the same as the other?

A. Yes; the same as the other.

Q. So you deduct no depreciation?

A. Substantially that is correct, for the reason that these service pipes—

Q. Why not?

A. Because up until very recent years the service pipes were all laid at the expense of the consumer and not included in this appraisal and these are practically all new service connections.

Q. They are practically all new service connections?

A. Yes.

Q. Has this company put in that number of service connections within the last year?

A. I don't know that it has been strictly within the last year. I do not know when that order of the Commission was issued, requiring water companies to take over service connections, within the last two or three years at any rate.

Q. All of the service pipes you speak of have been in at least two years, haven't they?

A. I cannot say offhand; they may have been in two years.

Q. Isn't your appraisal as of January 1st, 1919?

A. Yes.

Q. Then the service pipes that you mention there are prior to that, are they not?

A. Certainly, but the depreciation has been—

Q. Then they are at least nearly all of them, or all of them are at least three years old, are they not?

A. Just a moment please.

Q. You can answer that question yes or no.

A. They are three years old but you will find in table number 7-F—

Q. Where is it now? Which table is it in now?

A. You will find in table 7-F, following page—7-A following page seventeen; that is the table. You will note in that table that depreciation on the plant for the years 1919 and 1920, subsequent to January 1st, 1919, has been deducted, the depreciation has been deducted in getting the value of the plant as of January 1st, 1921.

Q. Was there depreciation included on the service pipes?

A. Yes.

Q. Where is that shown?

A. That is not shown on that table, but if you will note there, the depreciation has been taken on all the depreciable elements of the property.

Q. You mean lumped together?

A. Yes.

Q. Then to get this depreciation we have to turn to at least three different tables, haven't we?

A. If you want the depreciation down to January 1st, 1921, you would have to turn to table 7-A.

Q. Two different tables, three.

A. Well, if you want to look at the other two, you may; I have no objection, but you can get the amount that is deducted in the subsequent years in this table, No. 7-A.

Q. You mean the gross?

A. Yes, the gross amount.

Q. You cannot get it as to the different items?

A. No. If you want it a little more in detail, you can go to table—

Q. Is it shown anywhere here, the total depreciation on each item?

A. The total depreciation on each item, no.

Q. Anywhere in this exhibit?

A. No. We took one and one-half per cent. on the depreciable property and deducted it for the years 1919 and 1920.

Q. What allowance have you made for annual depreciation on these service pipes?

A. One and one-half per cent.

Q. In making this estimate of the value as of April 1st, 1921, what price per ton do you take for cast-iron pipe?

A. April 1st, 1921, $32.50. Maybe I misunderstood your question. What do you mean? Pipe that is laid in the years 1919 and 1920?

Q. 1921; April 1st, 1921.

A. Do you mean—

Q. The value as of April 1st, 1921.

A. Now I have got you, Mr. Hague.

Q. Table 4-E.

A. I see what you mean. I cannot give you that information.

Q. Why not? Why can't you give it?

A. Because I haven't got it.

Q. How did you figure it if you haven't got it?

A. The estimates of value in 1921 were based on ratios of costs of other years, but I have not got the details of that computation with me.

Q. You have here on table No. 4-E, item 129, distribution mains and accessories.

A. What page is that, table 4-E?

Q. It follows page eleven, it is the third page after page eleven. Item 129, distribution mains and accessories, under the last column based on current prices on April 1st, 1921, $2,276,088.

A. Yes.

Q. In making this estimate of value as of April 1st, 1921, what price per ton do you take for the cost for cast-iron pipe?

A. I have told you I haven't that information here.

Q. Have you it in your office?

A. Yes.

Q. Will you furnish it?

A. This estimate of $2,276,088 is based on the ratio of the cost of cast-iron and labor as between the year on which the valuation was made and the prices as they range in 1921.

Q. When you are talking about the present price, are you really talking about the price as of April 1st, 1921?

A. Yes— Well, I am not sure as to that; I would like to check it up. The probabilities are that the prices which we used are the prices as given on table No. 1.

Q. When you say the prices "we use," who do you mean by "we," Mr. Hill.

A. I have gotten into the habit of speaking of our firm as "we" and very frequently I use "we."

Q. Were those prices made up by you?

A. I think I testified at least ten times in regard to the prices and how they were made up, and told you that my representatives—

Q. You have not given the facts here which will explain the figures that you have put in in these exhibits?

A. I have not got every detailed computation with me, no.

Q. This is an item of two million and odd dollars; it is quite a big item.

A. No. The appraisal of April 1st, 1921, does not enter into the valuation of this property except for comparative purposes.

Q. Except that you said the present prices are higher than you used?

A. They are.

Q. But you haven't anything to substantiate that?

A. I am referring you to table one following page seven.

Q. Did you probably use $57.40?

A. They are the prices for cast-iron pipe on April 1st, 1921, as near as we could get them.

Q. What prices?

A. I say there are the prices of April 1st, 1921, as near as we could get them.

Q. How much?

A. The only quotation on cast-iron there is $63.30.

Q. That is probably what you used, isn't it?

A. Somewhere in that vicinity. I won't say that is the precise figure.

Q. What is the price now?

A. The price now—I got quotations yesterday on quite a bit of cast-iron pipe, $45.00 per ton for immediate acceptance, otherwise an increase.

Q. Where?

A. In Williamson, West Virginia.

Q. What delivery?

A. Williamson, West Virginia.

Q. Do you know what the New York price is?

A. Well, it is not very far from that. It may be a dollar or two dollars variation.

Q. As a matter of fact, wasn't it quoted at forty dollars last month?

A. I don't know anybody that bought pipe for forty dollars, no. I believe the price of cast-iron pipe will go up around fifty dollars before six months are over.

Q. What price per hour for common labor do you include?

A. In 1921?

Q. In 1921.

A. You will find table number two following table number one in the fourteenth column.

Q. Table one?

A. Table two, fourteenth column.

Q. Did you use five dollars?

A. Those are substantially the prices used.

Q. What percentage do you take as the value of the machinery in 1921 as compared with the pre-war basis?

A. I cannot answer that offhand.

Q. Can you furnish it?

A. Yes.

Q. Will you furnish it?

A. Yes.

Mr. Wherry—What did you ask him to furnish, Mr. Hague?

Mr. Hague—1921.

Witness—He wants to get the ratio of the machinery prices for 1921 as used in my appraisal.

Q. As compared to the pre-war basis; that is the way you figured it, wasn't it? What percentage do you take as the value of the gates and valves in 1921 as compared with the pre-war averages?

A. I would have to look that up too for you.

Q. Will you furnish that also with the other?

A. I will furnish all the information I can on that question.

Mr. Wherry—You want the ratio of valves and gates in 1921. I do not see it is material but you can have it.

Witness—I did not make a detailed estimate of every item for 1921. I may as well tell you now.

Q. Who did?

A. Nobody did.

Q. How was it arrived at; how was it done?

A. It was arrived at on the basis of the ratio of prices for the different elements that went into the plant. I did not pretend to consume the time in making a detailed reproduction estimate.

Q. You thought the distribution system was seventy per cent. more?

A. Some percentage which was determined on the cost of cast-iron, brick, cement, labor and so on, just in the same way that the concerns like Dun and Bradstreets and so on, report the variation in the purchasing power of the dollar or commodities likewise.

Q. How did you make your pre-war estimate?

A. The pre-war estimate was based on pre-war prices, on a ratio to the actual prices obtained from our estimate in 1918.

Q. Can you furnish us with the estimates of pipe laying, pre-war prices?

A. You mean the comparative cost?

Mr. Wherry—It seems to me those are entirely immaterial, on the ruling that you have already made, the Commission has already made. He is asking him for these details—

Mr. Hague—He has given this in evidence.

Mr. Wherry—Mr. Hill says that he made an estimate there taking a ratio of prices—he made an estimate of what the total of these different elements of the plant, and each different classification would be worth at these different periods; that he did not use the actual pre-war prices in detail in every element, and they are asking for the detail. That is a question of his judgment and that can be tested without having all those details.

Commissioner Osborne—In other words, he has not got them; he cannot furnish them?

Mr. Hague—If he says that, I am satisfied.

Commissioner Osborne—Is that the answer?

Witness—That is substantially so. If I may say a word; it seems to me, sir, I will be here

for the next year compiling details here in this case, which I am perfectly willing to do if you desire me to do it, but the city of Elizabeth is just as capable of making estimates on these things as I am. I have produced figures and the results I have given here. I can spend the rest of my life in producing details on which those estimates are based.

Commissioner Osborne—They want to find out—

Mr. Hague—If those figures are right.

Commissioner Osborne—What they are based on, because that would give them an idea of whether your conclusions are correct.

Witness—They can reach those conclusions by making an estimate of their own and producing it.

Commissioner Osborne—If they can point out that you figured it on a wrong basis, then they can argue your estimate is of no value.

Q. (By Mr. Hague.) How long have you been making up these figures, Mr. Hill?

A. Well, I presume first and last—I cannot answer that question exactly.

Q. Well, approximately.

A. I presume that first and last we have spent possibly nine or ten months, maybe more, eleven months.

Q. Then the city of Elizabeth would be entitled to the same length of time to go over your figures and arrive at the same conclusion, would they not?

A. I don't know anything about that.

Q. The only way we would be able to check them all over if we gave the same attention to it that you have, wouldn't it?

A. I presume if you made a complete detailed estimate it would take some time.

Q. It would be necessary to adjourn this case for about that time to give us a chance to make a complete inventory and appraisal of the plant, wouldn't it?

A. I don't know how long it would take you to make it.

Mr. Kean—You have had that time.

Mr. Hague—Mr. Kean says I have had that time. My recollection is this appraisal was submitted less than three weeks ago.

Mr. Kean—That is, to make an appraisal.

Mr. Hague—We had no right to assume we were called upon to meet this.

Mr. Wherry—What is it you want, the ratio?

Mr. Hague—Mr. Hill says he hasn't got it, so I don't know how you are going to get it.

Mr. Wherry—Well, it is the ratio of 1921 prices in regard to valves and gates, is that it?

Q. Have you obtained any prices on gates, boilers, pumps and similar equipment within the last few weeks?

A. Yes.

Q. Where?

A. At the office.

Q. Have you had any actual bids?

A. Yes.

Q. How do they compare with the pre-war prices?

A. They are quite a little higher than the pre-war prices.

Q. How much higher?

A. I would not want to say offhand just how much higher.

Q. As a matter of fact, aren't gates and valves selling down to almost the pre-war prices?

A. No, they are not.

Q. What was the price you got on a six-inch gate?

A. I would have to look that up.

Q. What boilers did you get figures on?

A. I got figures on water tube boilers.

Q. What size?

A. About 125 horsepower boiler.

Q. What were the figures on that?

A. I do not remember them offhand.

Q. How about pumps?

A. We have had bids on electrically driven and turbine driven centrifugal pumps recently.

Q. What were the prices of those?

A. I do not recall that offhand.

Q. What was the percentage of the value that you gave April 1st, 1921, for riveted steel pipe as compared to the value on the pre-war basis?

A. I cannot tell you that.

Q. Is it not a fact that steel pipe, standpipe and other steel structures are now on substantially the pre-war basis?

A. It is not.

Q. How much difference is there?

A. I would not want to say offhand.

Q. Is it ten per cent.?

A. More than that.

Q. What prices have you got recently?

A. I don't know that I have had any quotations in the office on standpipe very recently.

Q. Then how do you know?

A. Because I have seen other quotations.

Q. What ones?

A. I have seen quotations—well, I have seen two or three of them recently.

Q. I cannot hear you.

A. I say, I have seen two or three recently; I do not recall just what they are. But none of that pipe work is down to the pre-war basis.

Q. Where are they?

A. Where are they?

Q. Yes.

A. I don't know.

Q. Where were they put up, these ones you say you know of?

A. I don't know whether they were put up or not.

Q. Where were they to be put up? Who was it you got it from, the information?

A. I do not recall that offhand. I cannot give you the details of it. I have seen the prices by reading over the contract news and the costs.

Q. Isn't it a fact that the American Bridge Company is actually figuring now on the pre-war basis?

A. I don't know what the American Bridge Company is figuring on.

Q. How do you figure the value of cement lined pipe?

A. You want all of the details of that, Mr. Hague?

Q. I want to know what method you followed.

A. Well, we estimated the amount of wrought iron sheets required for the jacket, shell and sleeves, including an allowance for riveting, giving the pounds required for the different size. Then we estimated the amount of cement for the inner lining and the outer coating and the joints and the amount of sand required for the same, and then we took the wrought iron sheets at 3.07 per hundredweight.

Q. Mr. Hill, will you furnish us with that in a statement, and we will eliminate that question, how to figure the value of the cement lined pipe?

A. Yes. I will furnish it.

Q. Do you know how much of this old cement lined pipe has been taken out?

A. Well, there is a statement in the report as to quite a little of it. I could not tell you offhand just how much has been removed in table 7-C.

Q. Has the greater part of it been taken out?

A. I would not want to answer that offhand, whether it is the greater part or not.

Q. Is it not a fact that this pipe is not sufficient in strength to stand the pressure in many parts of the system and that it had to be taken out for that reason?

A. I think there are quite a few cases where they took it out to replace it with cast-iron, so as to increase pressures, but I do not think that is—

Q. That kind of pipe is not used now in any system, is it?

A. Well, I do not think cement lined pipe is used to any great extent now.

Q. (By Commissioner Osborne.) Is it cement?

A. Cement lined pipe.

Q. Cast-iron with cement?

A. It is made up with wrought-iron, wrought-iron outside and lined with cement on the inside. It was used quite a little by numerous water companies at one time in the history of water works in this country, particularly in New England.

Q. (By Mr. Hague.) It is a method that was used a great number of years ago?

A. Yes.

Q. Forty, fifty, sixty years ago?

A. Well, I would not say as long ago as that.

Q. When this company was first built, isn't that what a great part of their mains were composed of?

A. I would have to look up to see exactly when those mains were laid. The cement lined pipe has been used more, much more recently than forty years ago, been laid very much more recently than forty years ago.

Q. But not used now for similar purposes?

A. No, I have just said cement lined pipes are not used.

Q. Still you have figured them on the cost of reproducing that kind of pipe?

A. Certainly I have. A lot of that pipe is perfectly serviceable and perfectly good, absolutely good; there is no reason why it should not be.

Q. Isn't it a fact that it will not, in most instances, stand the pressure, if there is any pressure on it?

A. No, that is not true. There is a great deal of that pipe that is in perfectly good condition in the streets of Elizabeth.

Q. (By Commissioner Osborne.) Is modern pipe of the same size more or less expensive?

A. Is cast-iron more or less expensive? I can answer that right away.

Q. In a general way?

A. Take a four-inch pipe, at the time of this appraisal, total costs of materials for cement lined we

estimate at 26.5 cents per foot and on cast-iron pipe, the total for the material—

Q. (By Mr. Hague.) What was the total unit price of laying; what was the price laid?

A. That is the total.

Commissioner Osborne—Material, he said.

Witness—That is the total of the pipe.

Q. I mean laid.

A. Laid is 72.7 cents.

Commissioner Osborne—Let him give it his own way and then if you want to cross-examine him, do so.

Witness—I thought you were comparing the cost of the pipe.

Commissioner Osborne—I am trying to compare the cost of the two pipes.

Witness—Yes. There is very little difference in the cost of laying the two.

Commissioner Osborne—What then is the difference in the cost of pipe material?

A. The cost of four-inch pipe, for example, cement lined, the materials, pipe, fabricated, not in the ground, 36.6 cents.

Q. For the cement lined?

A. For cement lined. For the cast-iron at the same period it is 42.6 cents.

Q. Per foot?

A. Per foot.

Q. So if you had substituted the modern cast-iron pipe in your estimate for the obsolete but still useful cement pipes, the result would have been higher?

A. Yes.

By Mr. Hague.

Q. At what period?

Commissioner Osborne—At the time he made the appraisal.

Witness—Those prices are coincident prices, I mean, they are for the same period.

Q. (By Mr. Hague.) What period is it?

A. That is when this appraisal was made, about 1918.

Q. Will you turn to page 429 of the inventory, page 432, and tell us what the cost is on page 429, cast-iron mains, four-inch.

A. In place?

Q. Yes.

A. We allowed 93.8 cents a foot.

Q. Turn to page 432. What is the four-inch cast-iron pipe?

A. You mean cement lined pipe?

Q. The cement lined.

A. In place?

Q. Yes.

A. 88.9 cents.

Q. Which is the better pipe?

A. Which is the better pipe?

Q. Yes.

A. I prefer cast-iron to cement lined.

Commissioner Osborne—Don't you think we are wasting time in pursuing this aspect of the subject, in view of the apparently obvious fact that the appraisal will be lower under his present method than under the method which you intimate he should have used.

Mr. Hague—Would you use cement lined pipe now, Mr. Hill?

Witness—No; I would not.

Commissioner Osborne—He would not use it now, but in his reproduction he has taken it because it was there. Taking the cast-iron pipe which he would have used if he were rebuilding anew, he would have had a higher value apparently.

Mr. Hague—It is practically the same, as shown by these figures.

Witness—No. The cement is a little cheaper, the cement wrought iron pipe.

Mr. Hague—Two or three per cent.

Commissioner Osborne—You want to show the valuation is too high, don't you?

Mr. Hague—Yes.

Commissioner Osborne—What you are doing is to show that it is not as high as it might have been.

Mr. Hague—No; but there is a difference between the figures as he gave them to your Honor, as I recall, and the figures we show here.

Commissioner Osborne—There is a difference in the two, in both sets of figures, and both against your contention.

Mr. Hague—But there was a less difference between the figures as shown here and the figures the witness first testified to.

Commissioner Osborne—The witness gave me figures for pipe and material. He gave you figures for pipe and material laid.

Q. (By Mr. Hague.) You have included an estimate of the ten-million gallon Worthington horizontal Duplex, compound pumping engine of twenty-five thousand dollars?

A. I presume that is right, yes.

Q. How does this price compare with what you could buy that engine for in 1914? Is that one of the items you are going to furnish for Mr. Herrmann?

A. I don't know whether he asked that question.

Mr. Hague—Do you remember, Mr. Wherry?

Mr. Wherry—About the Worthington pump? I do not think he mentioned any special pump. Yes, I think that would come under his third item.

Witness—Is that included, Mr. Wherry?

Mr. Wherry—I think it is in his third item. He did not mention specifically the pump.

Mr. Petty—He said machinery.

Witness—What was that figure, Mr. Hague; forty-five thousand dollars?

Q. Twenty-five thousand dollars. Have you used the same ratio for all the different classes of machinery?

A. No, I would not say that we have. I should say you could buy an engine of that kind on the pre-war basis, 1914, for around twenty-five thousand dollars, twenty-seven thousand dollars, a ten-million gallon pump.

Q. The same as you figured it, about the same as you figured it?

A. You said forty-five thousand dollars?

Q. No, twenty-five thousand dollars.

A. Around fourteen or fifteen thousand dollars.

Q. What was the actual cost of the pump to the company?

Mr. Wherry—He asked for that.

Mr. Hague—Mr. Herrmann asked for that?

Mr. Wherry—Yes.

Q. Give us the same information on the six-million gallon Worthington pump.

A. You mean what it would cost on the pre-war basis?

Q. The actual cost. Does he ask for that too?

Mr. Wherry—I presume so.

Mr. Hague—All right. Then that can be furnished. Also the Babcock and Wilcox boilers, the actual cost, the date when they were installed, and the Hughes & Philips return tabular boilers.

Witness—Mr. Wherry, may I make a suggestion? It would save everybody time if I just simply furnished, in reply to Mr. Herrmann's question, the actual cost on all the steam power pumping equipment which we have.

Q. Do you include the air compressors in the same classification as to the prices?

A. Yes.

Commissioner Osborne—Aren't these questions you can incorporate in your interrogatories? They all seem to me to be simply directed to further information as

to what certain things cost. I cannot see they are particularly important myself, most of them. Can't you put them in your questions to save time?

Mr. Hague—I can, I suppose. These questions that Mr. Herrmann has propounded and which we are to supplement, are to be answered by Mr. Hill. Mr. Fuller, our expert, is going away to-night and will be gone for a week and a half, and I will be unable to propound those questions until I can consult with Mr. Fuller on them.

Commissioner Osborne—Can't he give you the questions now before he leaves to-night? Then if you find Mr. Herrmann has duplicated them—

Mr. Hague—He can give some of them, but until we find out what Mr. Herrmann's questions are, we cannot tell exactly what we have.

Commissioner Osborne—Mr. Herrmann's questions only relate to these prices, to see whether in building up his estimate—

Mr. Hague—I am not trying to cover any more than possible. Anything that Mr. Herrmann covers we want to eliminate.

Commissioner Osborne—All we want to find out now, I assume, is whether or not the witness' judgment as to the value of this property is based upon sound conclusions as to prices.

Mr. Hague—As to these prices?

Commissioned Osborne—Yes.

Mr. Hague—Mr. Herrmann's questions may not cover some of the questions we would like to ask, and until we get his questions, we cannot tell.

Mr. Wherry—Why can't they furnish theirs to Mr. Herrmann and then he can eliminate the duplicates.

Mr. Hague—We can do that, but as I say, Mr. Fuller cannot get them out to-night.

Commissioner Osborne—Are there so many of them?

Mr. Hague—There are quite a few of them. We have some.

Commissioner Osborne—I think perhaps you will also have the advantage, if you write your questions,

of not asking questions that are apt to be immaterial; confine them to something that will throw real light on the issue here.

Mr. Hague—I did not think we had been asking immaterial questions.

Commissioner Osborne—I cannot see the point in a large proportion of these questions. I cannot see that they particularly have any bearing.

Mr. Hague—Most of our questions have been directed to these exhibits that have been put in, as to how these figures were arrived at, and I think they are entirely competent, to find out how this witness arrived at these figures that have been submitted here after months of investigation.

Commissioner Osborne—Yes. I have not had to pass on the competency, so I will not say they are not competent, because they have not been objected to. But we have got to take an adjournment now in any event, and I thought if we could put these all in the form of written questions—

Mr. Hague—You mean all of my cross-examination?

Commissioner Osborne—Along this line, yes.

Mr. Hague—As to these unit prices, I would, but I do not care to submit my case in that way. I want to have the opportunity of inquiring from this witness how—

Commissioner Osborne—I supposed this morning, when we discussed and disposed of this question of interrogatories, that we were going to take care of all the unit price questions through interrogatories, that your examination was to be along other general lines.

Mr. Hague—Yes, on machinery and things of that kind, but not on everything.

Commissioner Osborne—If you could confine your questions as to unit prices to these written questions, then we could segregate that, because that is what the engineers are interested in in checking up this inventory and appraisal; they are interested in what these unit

prices are based on. How much time will you need to prepare your questions?

Mr. Hague—The first day Mr. Fuller can be here—he is engaged in other cases—would be November 4th.

Commissioner Osborne—How much more time do you think you will need for cross-examination?

Mr. Hague—I don't know, sir.

Commissioner Osborne—We have got to have some idea when this matter is going to be terminated.

Mr. Hague—I cannot tell you. I will go along with my cross-examination if the court—

Commissioner Osborne—If you cannot bring it to an end within a reasonable time, we will have to bring it to an end for you, because these cases cannot go on and on indefinitely. You ought to have some idea about how much time you will need.

Mr. Hague—I have not the remotest idea, your Honor. I am depending a great deal upon my expert.

Commissioner Bacharach—What do you mean; the questions he will present to you to prepare them for the witness?

Mr. Hague—I might say this; we have access to this exhibit put in here, which has taken months and months to prepare, but we have not had access only in this office to that exhibit, and it is nearly about three weeks. I have not been able to give my entire time to this, but Mr. Fuller, as soon as I could get him has gone on it. It has taken months and months for him to prepare. Mr. Hill has testified it took eight to ten months, and it surely requires more time than that for an expert to go over it and check over these figures.

Commissioner Osborne—No, it does not. It does not take more time to go over this data and check over it than it did to make it up, by a long shot.

Mr. Hague—It takes considerably more time than we have had.

Commissioner Osborne—It depends how much you put on it.

Mr. Hague—We are putting in every day since the case was started.

Commissioner Bacharach—You said not until after November 4th.

Mr. Hague—I am ready to go on personally, but Mr. Fuller will not be here, cannot be here until after the fourth.

Commissioner Bacharach—Then you do not want to go on until after then.

Mr. Hague—Unless you fix an earlier date.

Commissioner Bacharach—No use fixing an earlier date if you are not prepared properly, it seems to me.

Mr. Hague—I do not think I should be compelled to go on without my expert being here.

Commissioner Osborne—How soon can you be prepared to go on? You say he won't be back until then. Will you want to confer with him when he gets back?

Mr. Hague—I beg your pardon.

Commissioner Osborne—How soon after the 4th, when you say your consultant will be back, how soon after that can you go on?

Mr. Hague—I suppose in a few days.

Mr. Wherry—Would it be possible to go on with this for consecutive days and finish it up?

Commissioner Osborne—We are simply besieged with cases from all over the State; all these companies want action; they want to get a rate and get the matter disposed of.

Mr. Hague—I have no desire to prolong this case any longer than possible. It seems the Court feels I have been unnecessarily prolonging it. I assure you there is no desire on my part to prolong it. I am just as anxious to get through with it as quickly as possible.

Commissioner Osborne—How about Wednesday, November 9th, that is the day after election.

Commissioner Bacharach—Is that satisfactory, Mr. Hague?

Mr. Hague—Yes, any day after the 4th.

Commissioner Bacharach—Will November 9th suit you, Mr. Wherry; that is on Wednesday?

Mr. Wherry—Yes. I think that does not conflict with any of my dates.

Commissioner Osborne—Here at Newark, November 9th, 10:45.

Mr. Hague—Mr. Wherry, do you object to the introduction of that or do you want me to formally prove it? (Indicating.)

Mr. Wherry—No, I want on the record the date.

Mr. Commissioner, Mr. Hague wanted to introduce this exhibit.

Mr. Hague—May I have it marked as an exhibit. Of course it is rather informal.

Commissioner Osborne—Any objection?

Mr. Wherry—I have no objection. I stated that I thought the dates ought to appear on the record. I want to put those dates in. For instance, the Commonwealth was appraised as of November, 1917; Utica, 1916; we will get those exact dates and put them in.

Commissioner Osborne—Very well.

Mr. Hague—You mean you will put in those dates?

Mr. Wherry—I will get those dates.

Commissioner Osborne—You may mark it.

(*Exhibit P-86* in the Commonwealth Water Company case received and marked *Exhibit Elizabeth-1.*)

(Adjourned until Wednesday, November 9th, 1921, at Kinney Building, Newark, N. J., at 10:45 A. M.)

BOARD OF PUBLIC UTILITY COMMISSIONERS,

NEWARK, N. J., Wednesday, November 9th, 1921.

IN THE MATTER OF THE APPLICATION OF THE ELIZABETHTOWN WATER COMPANY, WATCHUNG WATER COMPANY, PISCATAWAY WATER COMPANY AND RARITAN TOWNSHIP WATER COMPANY, INCREASED RATES.

Before Commissioner Harry V. Osborne, Esq.

For the petitioners appears: W. M. Wherry, Esq.

For city of Elizabeth appears: Joseph T. Hague, Esq.
For Dunnellen and Piscataway Township appears: R. P. F. VonMinden, Esq.

N. S. Hill, Jr., resumes the stand on behalf of petitioner.

Cross-examination, by Mr. Wherry, continued.

Commissioner Osborne—Was Mr. Hill on the witness stand when we adjourned before?

Mr. Wherry—Yes, he was. He has been cross-examined for some time.

Commissioner Osborne—Didn't we adjourn this case in order to give Mr. Hague time to examine Mr. Hill's testimony for the purpose of having any further cross-examination?

Mr. Hague—Yes.

Commissioner Osborne—I just wanted to be sure I had the right case in mind. We have so many of these cases with intervals between them that it is sometimes difficult to connect them up.

Mr. Hague—We were to receive a list of questions, and if after receiving the list of questions propounded by Mr. Herrmann, we wanted to add anything to it, we would. Mr. Fuller has gone over the questions submitted by Mr. Herrman and he said on those particular subjects he felt they covered it; we do not care to submit anything further on those particular items.

Commissioner Osborne—Those questions and answers are now going into the record?

Mr. Wherry—We did not get the questionnaire until Tuesday of last week. We will probably have the answers completed by the end of this week.

Commissioner Osborne—Having the questions now, would you rather put the answers in in writing, direct your answers to the interrogatories, or would you rather have the witnesses answer the questions now verbally, on the record?

Mr. Wherry—My idea was we would treat it the way we would a deposition. We would furnish a copy of the questions and answers to counsel, and the Commission as soon as completed, which would be the end of this week, and then if they wanted any examination we could recall Mr. Hill.

Commissioner Osborne—That would involve a still further hearing, the recalling of Mr. Hill.

Mr. Wherry—We cannot put them in to-day because we did not get the questions in time to complete them.

Commissioner Osborne—I wondered whether you were able to answer them orally.

Mr. Wherry—To-day? There is one that requires quite a computation. How about that, Mr. Hill? You know better about that than I.

Witness—Several of the questions involve tables and extracts from original notes which are being prepared. That is what took the time, getting it tabulated.

Commissioner Osborne—So you could not put those questions in orally to-day?

Witness—We could not put them in orally to-day in any event.

Q. Mr. Hill, for what purpose does this company require additional capital at the present time?

A. Well, the company, as is known, is purchasing a large proportion of the water which it supplies, from outside companies, and it has in mind plans for the extension and enlargement of its sources of supply. The particular items included in the capital outlay program I think you could secure better from one of the officers of the company than from me.

Q. The additional supply you speak of is for the supply at the intersection of the Raritan and Millstone Rivers, is that what you have in mind?

A. Yes.

Q. And that was the only additional supply?

A. That is the only one that would be sufficient to satisfy all the needs of the company, that could be developed to satisfy them for some years to come.

Q. Will you outline the nature and the estimated cost of the work which is required, if you can?

A. That particular work was not in my care. The development of those plans was in the hands of Mr. Morris Sherrerd, and also the estimates of the work. I think Mr. Sherrerd had with him as consultant, Mr. Allan Hazen, and they have filed a report with the company. But I do not know precisely what their estimates amount to. I have made no estimates on present day costs.

Q. That was about ten or twelve years ago, was it not, that they made that estimate?

A. Well, no, I think the question of the development of the Raritan River came up at first possibly ten years ago when the plan was to develop the river at Somerville; I do not remember just when; it might have been twelve years ago. Then that was blocked by an injunction which the Borough of Somerville obtained, and this Raritan development at the Millstone River was taken up.

Q. That has all been cleared away, the legal obstruction, hasn't it?

A. As far as I know, yes.

Q. Do you know of any recent estimate?

A. Well, I think that there was some estimate made some two or three years ago, about that. I am not positive. You would have to secure that from the company.

Q. In your cross-examination on September 19th, you were asked to look up the matter of the rate of return in the past of the Elizabethtown Water Company and you said you would furnish it. Have you that data?

A. I am preparing that table in connection with the other answers. I haven't it to-day.

Mr. Hague—Your Honor, I have four or five questions here as to Mr. Hill's testimony in the

Hackensack case, which I would like to have him answer, as to what he testified in arriving at values at that time.

Commissioner Osborne—There is no objection to having him answer them, if you propound them in a proper way.

Q. Mr. Hill, in testifying before this Commission in the matter of the rates for the Hackensack Water Company, did you submit to the Commission as an exhibit, a volume entitled "Final valuation of the property of the Hackensack Water Company, with tentative rate schedule: Volume I."

A. Yes.

Q. In discussing your methods of valuation in that volume, did you say on page three: "Reproduction cost new or under original conditions and actual cost are not necessarily indices of value, for it may easily be conceived that under any circumstances a plant may be worth more or less than the cost of reproducing it new or the actual cost. The determination of value by reproduction cost or by actual cost is a method and as such may or may not be a value."

A. Yes.

Commissioner Osborne—Will you give me the page on which you gave the testimony?

Mr. Hague—Page three.

Mr. Wherry—It was an exhibit in the case. It was the valuation put in as an exhibit.

Commissioner Osborne—But the witness made that statement in the case?

Mr. Hague—In this Hackensack case.

Witness—That has always been my theory, and it is my theory at the present day; that these estimates are only indices to be used in conjunction with the determination of value.

Q. In the same volume did you say on page four, "It is desirable that a rate schedule should have stability and should not fluctuate with the price of iron pipe or with real estate activity or reaction? A utility is not

established for the purpose of speculating in these elements. Therefore to predicate a determination of fair value upon the cost determined at the time of appraisal alone may not produce the desired stability, and the actual costs should be taken into consideration in order to stabilize the fair value determined for it is obvious that the value of a public utility property as a whole does not truly and actually vary with the changes in the cost of the elements of which it is composed."

A. I don't know, your Honor, of course, that those are just my words, but I am perfectly willing to accede to that theory. I do not deny it, because I still feel that way.

Q. That is your theory?

A. That is my theory at the present day.

Q. In the same volume, did you also say on page five, "In recent years there has been a tendency to modify the reproduction method so as to make it nearer the actual cost, and to emphasize the importance of the actual necessary cost as a factor in determining value. Certain decisions go so far as to make the actual and necessary costs the most important if not the controlling factor in determining fair value."

A. I presume that is a correct extract.

Q. And on page six of the same volume: "The amount of money which has been actually and wisely expended in producing the plant, or the investment cost of reproduction, is a primary consideration."

A. Yes.

Q. And on page eight of the same volume: "The quality of the water furnished, the character of the service rendered, the fitness of the plant and of the source of water supply to meet reasonable requirements, not only for the present but for the future, are also material to the question of fair value."

A. Yes.

Q. And on page ten of the same volume: "We have, therefore, generally assumed in our reproduction esti-

mates that prices paid by the company were the best evidence of costs, when such prices were available."

A. Yes.

Q. On page sixteen of the same volume: "In preparing the reproduction estimates, however, the prices paid by the company for machinery and equipment, wherever they could be ascertained from the books, have been used in preference to hypothetical estimates of the cost of such machinery and equipment."

A. Yes.

Q. On page 142 of the testimony in this present case you stated that all companies incurred a cost in building up a business. Can you show any cost which the Elizabethtown Water Company has incurred in building up its business?

A. No, I have not the early history of this company in sufficient detail to determine what the actual cost of organization and development was.

Q. Have you defined the going cost in several ways? You have defined the going cost in several ways, have you not?

A. Well, I don't know that I have.

Q. You have included $434,496 as the going cost of the Elizabethtown Company in this appraisal, have you not?

A. No. I should not say that I have included that as the going cost. I have placed the total intangible value of the property at that figure; I think that figure is correct.

(Commissioner Treacy now sitting with the Board.)

Q. Will you tell us whether this $434,496 which you have included as going cost, was cost actually incurred by the Elizabethtown Water Company or is it a value which you think this plant has, due to the fact that it can earn a revenue in excess of the ordinary interest return on the value of the tangible property.

A. Well, it is, I should say, a combination of both. In the absence of the data which would enable one to

determine the actual cost of development, so-called, I assume it proper, from the knowledge of the cost of development of these properties, to assume that there is a cost in connection with their development. While this does not represent an actual cost that I was able to determine, it represents a measure of what that cost would be, coupled with my judgment of what a going operating property would be worth in excess of one which was not going and operating.

Q. What do you mean when you say "measure"? Explain that a little bit.

A. When I speak of what?

Q. How do you measure?

A. How do I measure it?

Q. Yes.

A. There are a great many companies in which it has been possible to ascertain what the cost of development has been. Their records are in such shape that we can, by going back to their inception, determine what the development costs are.

Q. (By Commissioner Treacy.) How did you do it in this case? What did you do in this case?

A. In this case I used a figure which I thought was the reasonable fair figure, judged from experience in plants where you could determine what the cost was.

Q. You could not base it upon actual costs for that purpose, made by this company?

A. No.

Q. On page thirty-one of exhibit four, you have computed the development cost of the Raritan River Water Company?

A. Page thirty-one, exhibit four, yes.

Q. You have also, in other parts of this volume, exhibit four, computed the development costs of the Piscataway Water Company and of the Watchung Water Company, have you not?

A. I think that is correct.

Q. Now, as a matter of fact, is it not a fact that for every dollar that the Elizabethtown Water Com-

pany put into its plant, they have received not only a seven per cent. return but much in excess of this?

A. No, I could not say that.

Q. Did you make any effort to find out?

A. I am now having prepared for you a statement to show what the return was on the property. You asked me to do that the other day.

Q. Is it not true that the money loaned by the Elizabethtown Company to other companies, and the present large surplus, amounting to over one million dollars, held by the Elizabethtown Company, has been derived from rates collected from the consumers in the past.

A. Well, I don't know whether I would be justified in—

Q. (By Commissioner Treacy.) Do you know anything about it, of your own knowledge?

A. Yes, sir; I do know something about it. I was trying to come to that, Commissioner. I think the probabilities are that the major portion, if not all, of the surplus represents money which the company has withdrawn from earnings and invested in plant. I think that is a correct statement.

Q. (By Mr. Hague.) The other portion of it; where did that come from?

A. I say I think the major, if not all—I would have to go back—

Q. You know of no other way in which they got the money?

A. No, I do not.

Q. (By Commissioner Treacy.) They did not put anything into surplus themselves, did they?

A. I think not.

Q. (By Mr. Hague.) This surplus has been built up after paying all dividends, hasn't it?

A. I don't know that. I have not followed the dividend history of the company.

Q. Is it not true that a considerable share of the property of the company represented by the book value of $2,200,000 has been paid for out of past earnings of the company after dividends have been paid?

A. Well, I can say that a considerable proportion of that $2,200,000 of book value has been paid for from earnings. I cannot answer the question whether it was paid for from earnings after dividends paid.

Q. With this record of the company before you, did you have any question in your mind as to there being actually any development cost which had not been compensated for under the rates collected from the consumers?

A. Well, I am not prepared to answer that question. I don't know what you mean by saying "compensated for."

Q. Well, that they had received compensation from the consumers out of the rates.

A. I don't know how they could receive any compensation for development cost from the consumers out of the rates, unless you are prepared to show that their dividends were way in excess of a reasonable return; and the history of this company antedates public utility control by years. I do not see what you mean by that at all.

Q. You have suggested in your testimony that rates might be fixed subject to a discount. Do you mean that this discount would be made when the rate of return on capital in the general market became less than it is now, or when the cost of reproduction became less, or when the operating expenses became less?

A. I mean that the discount would be allowed when the company earned—when the gross earnings were in excess of the amount necessary to pay operating expenses, taxes, set aside a proper reserve for depreciation, and pay a fair return on the fair value fixed by the Commission, at a rate of return which the Commission determined was fair.

Q. You want to fix that rate base, that rate of return on present conditions, is that it?

A. No. I do not want to fix that rate of return on present conditions necessarily. I want to fix the rate of return at what now looks like the fair rate of return for a company of this kind to earn.

Q. If prices went down, what would you do?

A. What?

Q. If prices went down, what would you do?

A. I would leave it to the Commission to determine whether the rate was a fair one or not.

Q. This discount would not automatically take that into account, would it?

A. Practically so. I do not believe the variation in money would amount to anything very material at any rate.

Q. Do you think there has been a variation in money recently?

A. Slight, very slight.

Q. How do they compare now with this time last year?

A. What do you mean, the rate, or bonds and stock?

Q. Yes, money.

A. Bonds are very little different.

Q. The rate on money?

A. The rate on call money and loan money is lower.

Q. About how much lower?

A. I could not say offhand.

Q. Nearly three per cent., isn't it?

A. I would not want to commit myself offhand.

Q. You have stated that the value which you place upon the property of the Elizabethtown Water Company is a fair value and that this fair value is identical with the market value of this property. It is your opinion then that the Elizabethtown Water Company could sell its plant at the price which you have fixed for the property?

A. Well, I am not prepared to answer that question. I do not think that I testified that my value was necessarily market value. I said that I did not believe there should be any difference between the market value—

Q. Didn't you say—

A. Let me answer the question I said, I did not believe there should be any difference between the value for purchase and sale and for rate-making purposes,

which would practically bring the level back. But in the case of a company where the gross return which it can receive is not fixed, you cannot establish the market value, because in the matter of purchase and sale for investment purposes, the first thing the investor is going to concern himself with is the amount of return he is going to receive, so the market value of this property could not be established until the rates are fixed by this Commission. The question of the value of that property is going to be absolutely determined by what this Commission decides this company is entitled to receive.

Q. You expect this Commission to fix the market value?

A. No. They will automatically do it when they fix upon the return.

Q. Hasn't the company any market value?

A. What?

Q. Hasn't the company any market value?

A. I don't know what its market value would be to-day in the absence of any decision with regard to what was the fair value of the property or what it was fair for it to return.

Q. (By Commissioner Osborne.) You mean to say that the market value of the property is fixed by the earning capacity?

A. Yes, entirely.

Q. So if we fix a rate of return at a given amount, that in itself determines the market value of the property?

A. Substantially so. What I mean to say is this; if you conceive of a willing seller and willing purchaser in the abstract, if you conceive this property was marketable, and there was an investor looking around for an investment, and the Elizabethtown Water Company struck his eye, he would not look at the question of the physical value so much as he would at the question: What return can I make on what price? In other words, if he could satisfy himself that under the adjudication of this Commission he could earn a fair return

on five million dollars, he would be willing to give five million dollars for the plant.

Q. Regardless of what the physical property was worth?

A. Yes, that is, I mean where you are trading in public utilities, that is really the first consideration of the purchaser of the property; what the property will yield. And I think that was the very reason, your Honor, that these commissions were established, and they are trying to put the thing on the basis of what the property is worth from the physical aspect, so as to prevent pyramiding as the result of speculating on return. But if a property is in the condition of this property to-day, where they do not know what valuation is going to be placed upon it, what rate base they are going to have, or what rate of return they are going to have, naturally no investor would go near it; it has practically no market value.

Q. Then what you say is, that is the method of determining market value to the possible investor or business man, looking at it from the purely business point of view?

A. Yes.

Q. You do not say you approve of that method?

A. No.

Q. (By Mr. Hague.) Has this property a value for purchase and sale of the amount of the valuation you have placed upon it?

A. It would, I think, be a fair value for the property.

Commissioner Treacy—He does not say that.

Mr. Hague—I am asking if he says that.

Commissioner Treacy—Do you claim that? You do not claim that, as I understand it?

Witness—I do not claim it, no. What I am trying to say is this: I believe the price which I placed upon this property is the fair value, and if the Commission found that that was the fair value and allowed a return on that valuation, then this property would have substantially a

market value of that amount. In other words, the two things are inseparable. You cannot have the two values after the thing is adjudicated.

Q. (By Mr. Hague.) Wouldn't anyone buying this plant at the present time take into account what income would be be safely maintained in the future?

A. Yes.

Q. Do you know of any water company, either in the State of New Jersey or in any other State of the Union, that can be sold at the present time for the reproduction value on the basis at which you have figured the value of this property?

A. I cannot answer that question.

Q. Do you know of any?

A. I don't know of any; I don't know anything about it.

Q. Assuming for a moment that this Commission should allow you the rates which you have asked, do you then think that this Elizabethtown Company could sell its property for the sum which you have stated is the fair value?

A. Well, I would not want to answer that question; there are too many other considerations involved.

Q. Do you not think that with the knowledge which people have at the present time of the great decrease in cost of all commodities, and with the knowledge of the falling rate on money, that the investor would say to himself that while this rate may be allowed for a short time on the basis of the present high prices of reproduction and the present high rates for money, assume as either or both of these elements go back to the pre-war level, then the rate will be reduced to the pre-war level and the value of the property will not be on the basis you have estimated, but less than two-thirds of that value.

Mr. Wherry—I object to that question. I think that is entirely an improper question. It is a very complicated question. It certainly is not cross-examination.

Commissioner Treacy—You put this man on as an expert. Mr. Hague is merely asking for his opinion based upon a given set of conditions.

Mr. Wherry—He is asking him what an investor would think.

Commissioner Treacy—He asked him what his opinion is. Mr. Hill has put himself on as an expert both as to what financiers would do, as well as to what the value of the property is.

Mr. Hague—Is the question allowed?

Commissioner Treacy—Yes.

Witness—Will you read that question over again?

Commissioner Treacy—Suppose you reread it, Mr. Hague. You can read it faster.

Q. Assume for a moment that this Commission should allow you the rate which you have asked, do you then think the Elizabethtown Company could sell its property for the sum which you have stated is the fair value?

Mr. Wherry—That is one question.

Commissioner Treacy—Suppose he answers that question and then proceed with your other question. He said, as I understand it, he says: "Yes, if this Commission should allow the rate which he asks, it could be sold for the amount he thinks it is worth, or he has valued it at." Isn't that your answer?

Witness—I do not think I said that precisely, your Honor.

Mr. Hague—I understood him to say that to Judge Osborne when he asked the question, if the rate was fixed, that would fix the value.

Witness—That is precisely what I did say; if the rate was fixed, it would fix the value.

Commissioner Treacy—That is what I understood the question to be embraced.

Witness—I did not say whether I could or could not find a purchaser to buy at that figure,

because that is a question I do not think anyone can answer.

Q. Assume there was a willing purchaser and willing seller.

A. I think the property would be intrinsically worth what I have placed upon it; that is what I mean to say.

Q. (By Commissioner Treacy.) You think it ought to be possible to sell it on that basis?

A. Yes. I cannot say whether they could sell it or would sell it, or an investor would be willing to pay that or not. There are many other factors entering into it.

Q. Do you think you would advise an investor to purchase it?

A. Pardon me just a minute; if I may; take for instance the question of the attitude of investors toward public utility properties and the troubles that are involved in securing the revenues necessary to operate those properties and give the service that is expected of them at the same time. There is no question about it; they have become unpopular as an investment.

Commissioner Treacy—We have had that previously in the case.

Q. (By Mr. Hague.) Do you not think that with the knowledge that people have at the present time of the great decrease in cost of all commodities, and with the knowledge of the falling rate on money, that the investor would say to himself that while this rate may be allowed for a short time on the basis of present high prices, of reproduction and present high rates of money, as soon as either or both of these elements go back to the pre-war level, then the rates will be reduced to the pre-war level, and the value of the property will not be on the basis which you have estimated, but less than two-thirds of that value?

A. I don't know that. I cannot answer that question.

Commissioner Treacy—The Board wants to hold a conference and we will adjourn at this time to 1:45.

(Recess from 12:45 to 1:45 P. M.)

AFTER RECESS.

N. S. Hill, Jr., resumes the stand.

Cross-examination, by Mr. Hague, continued.

Q. Is it your opinion that every water company in the State of New Jersey should have its rates increased to the extent that they shall have a return on a rate base of forty or fifty per cent. greater than the actual cost of the property, the cost of reproduction on the basis of pre-war prices?

A. I cannot say that I would say that, no.

Q. In fixing your rate of return, you would take into account the rate at which other companies doing a similar business are earning, would you not?

A. I did not get that question.

Q. In fixing your rate of return you would take into account the rate at which other companies doing a similar business are earning, would you not?

A. Not necessarily, no.

Q. What would you do?

A. I would consider what was a fair rate of return for the company in question.

Q. How would you determine that?

A. Well, I would determine that from a study, as I have before testified, of what bonds and securities of a public utility are yielding at the period under consideration.

Q. You mean other companies?

A. Yes, I mean what the bond market or what the security market was bringing at the time.

Q. Will you state to us some of the companies which you considered in fixing upon this rate of return?

A. Will I do what?

Q. Will you state to us some of the companies which you considered in fixing the rate of return in this case?

A. I think I have filed a list of securities, public utility securities that have been quoted, showing the yields that those securities were bringing in the open market.

Q. Was that filed in this case?

A. Yes, that is some of them.

Q. Have you an extra copy of that? We haven't a copy of it.

A. I can get you one. I haven't one here.

Q. Has that been offered in evidence?

A. Yes, in evidence.

Mr. Hague—Mr. Wherry, is that offered in evidence?

Mr. Wherry—I don't know. I do not believe we did.

Mr. Fuller—That was in the Commonwealth case.

Mr. Wherry—No, it has never been offered in evidence here in this case.

Mr. Hague—Mr. Wherry says it has not been offered in this case.

Witness—Then I may be mistaken. The two cases were running parallel and I knew it had been offered. I thought it was offered in this case.

Mr. Hague—Is it the intention to offer that?

Mr. Wherry—Yes; we can offer it now. Let him have it, Mr. Hill, and we will offer it now.

Mr. Hague—Have you an extra copy of it, Mr. Wherry?

Mr. Wherry—Here is a copy you can use.

(List of public utility securities, showing the yield of same is received and marked *Exhibit P-6.*)

Q. (By Commissioner Osborne.) Does this consist of two pages, does this exhibit consist of two pages?

A. Yes.

Q. (By Mr. Hague.) Do you know what these bonds are selling for at the present time?

A. Those are quotations up to October. I do not know whether there has been any material change between that date and this.

Q. (By Commissioner Osborne.) You say to October, but the exhibit says to September.

A. I think it includes September.

Q. It includes it; up to October 1st?

A. Yes.

Q. (By Mr. Hague.) Do you know anything about the conditions of these various companies?

A. No, I have not made a study of each of the companies to find out their precise conditions. What I have attempted to do was to take the quotations on bonds listed by responsible bond houses, to see the yield that those bonds were bringing in the market for the period mentioned at the top of *Exhibit P-6.*

Q. Do you know of any of these companies which are earning a rate of eight per cent. on the value of their property based upon reproduction at prices fifty per cent. above the pre-war prices?

A. I do not know. I have testified that I have not made a valuation of these properties, nor do I know whether there has been any adjudication by Commissions or courts.

Q. You do not know what rate of return they are receiving?

A. No.

Q. Do you not know that the railroads of this country are earning less than six per cent. return on the actual money which has been invested in them?

A. Well, I presume that is so, yes.

Q. Under these conditions, how do you account for the fact that standard railroad bonds are selling on the basis of a yield of from five to six per cent.?

A. Well, I am not prepared to agree to that question, in a general way of that kind. I do not think these questions can be discussed in that way. That is a very broad statement.

Q. Isn't it a fact that they are selling with from five to six per cent. yield?

A. I suppose some of the railroad bonds are and some of them are not.

Q. Do you not think that any company which was allowed a seven per cent. return on the actual cost of the property would be in equal position to a railroad

which was earning less than six per cent. return on the cost of its property?

A. No, I would not say that, without specific comparisons. There are too many factors that enter into it.

Q. Do you know of any Public Service Corporation for which the market value of the stocks and bonds will at the present time equal the cost of reproduction of the property based on 150 per cent. of the cost?

A. I do not know of any that was based on 150 per cent. of the cost.

Q. Do you know of the stock and bonds of any public utility company at the present time which in the aggregate will sell for more than the actual cost of the plant?

A. Will you repeat that question?

Q. (Question read.)

A. I am not prepared to answer that question.

Q. How much money was loaned by the Elizabethtown Company to the Somerville Water Company?

A. According to the balance sheet of December 31, 1918, which follows page 14, *Exhibit P-4,* the loans to the Somerville Water Company were, $274,713.91.

Q. Is that money still owing?

A. I could not say.

Q. Isn't there also $46,083 and $67,200 loaned to the Somerville Water Company?

A. You will have to examine an officer of the company who is familiar with those transactions. I have nothing to do with that.

Q. (By Commissioner Osborne.) You have nothing to do with the accounting system?

A. I had nothing to do with the past financial transaction between these affiliated or inter-allied water companies.

Q. (By Mr. Hague.) This is an exhibit put in by you, is it not?

A. This is a transcript from the balance sheet of the books of the Elizabethtown Water Company, and all that I know is that those facts are a correct transcript

from the books, but what led up to these loans, or why they were made, or what they were intended for, is past history of the company which I could not pretend to give an accurate account of.

Q. For what purpose did the Elizabethtown Company loan this money to the Somerville Water Company?

A. That I am not prepared to say.

Q. Is it not feasible for the Elizabethtown Company to use some of the capital, now loaned to the Somerville Water Company, for its own purpose?

A. That I could not say.

Q. Your exhibit one giving a description of the property and other data is based upon your examination of 1918, is it not?

A. Yes, sir.

Q. Have you figures which show the amount of water pumped by the Elizabethtown Company and the amount of water purchased by the Elizabethtown Company from other companies in 1920?

A. Yes, I have such a table.

Q. Is it in an exhibit?

A. I do not know whether it is in that copy or not, Mr. Hague. Would you like the figures for 1920?

Q. Can you tell me where you found them, first?

A. I have a table in my copy here which gives the 1920 pumping.

Q. Is that one of the exhibits submitted?

A. I do not know whether this particular table was in the exhibits submitted or not.

Mr. Wherry—No. It is not, Mr. Hague. Do you want the table?

Mr. Hague—I would ask through the Court, if Mr. Hill will furnish us with that table, showing the amount of water pumped by the Elizabethtown Company and the amount of water purchased by the Elizabethtown Company from other companies for 1920 and also to date for 1921.

Witness—I have not the figures for 1920. I either read them from here for 1920—there are the 1920 figures compared with 1918.

Mr. Wherry—Does the Commission want three copies of it?

Commissioner Osborne—Not necessarily; we would like at least two. Have you been furnishing the exhibits in triplicate?

Mr. Wherry—Yes, sir. I furnished them in triplicate and furnished counsel one copy. I think we furnished all these exhibits in triplicate.

Commissioner Osborne—Perhaps it would be just as well, if you have prepared them; to make the files complete we need two anyway; one for Newark and one for Trenton.

Mr. Wherry—Mr. Hague, Mr. Kean has gotten up the figures from January 1st, 1921, to September 1st, 1921. If you would like, we can put those in right now and give you copies of it.

Mr. Hague—We would like to have a copy of it. You mean to submit this now and send copies to us later, so we might use this if we cared to now?

Mr. Wherry—Yes. Did you want to do that?

Mr. Hague—Yes.

Mr. Wherry—We can read that into the record if you want to.

Mr. Hague—We would like a copy of it. We are not prepared to examine. We would like to see what the figures are before we cross-examine on them.

Q. Mr. Hill, will you furnish us with a copy of the amount of water pumped by the Elizabethtown Water Company for the year 1921 to date?

A. Yes.

Q. Will you also furnish us with a copy of the operating expenses and revenues received for the same period?

Mr. Kean—I do not know whether we can give it to date. I can give it to you up to September 1st.

Mr. Wherry—We will give him as far as we have got.

Mr. Hague—Give it to us as far as you can.

Mr. Kean—I have it right here to September first.

Witness—Do you want me to answer that question, Mr. Hague?

Mr. Hague—I beg your pardon.

Witness—I have not answered that question you asked me.

Mr. Hague—The amount of water pumped and purchased?

Witness—I have answered that one but I mean about the revenues and operating expenses as far as I can give them for this year.

Q. Have you the figures to show that?

A. Yes. Not now.

Q. But you will furnish those?

A. Yes, sir.

Mr. Wherry—We will attach it to the questionnaire. Can we have an exhibit number for this table?

Mr. Hague—Mr. Wherry, you are going to put that in tabulated form and attach that answer to the tabulation?

Mr. Wherry—Yes.

(Statement of water pumped and purchased for 1920 received and marked *Exhibit P-7.*)

Q. Have you made any investigation as to the duty or efficiency of the pumping stations of the Elizabethtown Water Company, that is, have you figured the duty per hundred pounds of coal which is obtained from these stations?

A. No.

Q. Is it not a fact that the labor item and the coal item for these stations, to pump the quantity of water that is pumped, is very high?

A. Well, I would have to go back and look that up. I do not see why the labor item should be higher. I think possibly the coal item is higher than it would be in a more modern station, but I would have to look up the data.

Q. Will you look up that data and embrace that in those answers?

A. Yes.

Q. Should you not take into account the condition of these supplies and the fact that these supplies were not the most economical supplies to be furnished to the City of Elizabeth?

A. Well, that depends upon what you mean by that.

Q. Shouldn't you take that into consideration?

A. It is not always possible for every company to have the most modern and most economical plant in operation under every condition. If a plant is a good serviceable plant and giving reasonable service, I do not think the plant should be penalized; that is, if the money was honestly expended for the plant and the plant was put in with the best of intentions. There is a question as to whether the expenditure of money for more economical machinery would pay in the end.

Q. Then you mean that the money actually expended should be allowed?

A. I think unless there is very good reason to the contrary, it should.

Q. Shouldn't that be a factor which would have to be recognized if we are to consider reproduction cost instead of the actual cost of the plant?

A. Well, I think it should be recognized to the same extent in either case.

Q. Doesn't the taking of reproduction cost as the controlling element necessarily involve the question of whether such work should reasonably be reproduced to produce the service.

A. Why, yes, the works that you estimate upon must be works that will produce the service.

Q. (By Commissioner Osborne.) Mr. Hill, assuming that the service would be equal in either case,

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equally efficient in either case, is it the practice of engineers in estimating reproduction cost to estimate on reproducing an existing plant or upon reproducing a more modern plant?

A. Well, I think both methods have been used. It is customary and common to estimate the cost of reproducing the plant as it actually exists, and I think that is probably the most common.

Q. For instance, here is a plant—I think you will undoubtedly get what I have in mind—here is a plant which has machinery which is more or less obsolete, but which is able to furnish adequate service.

Mr. Hague—Your Honor, it is not adequate service.

Commissioner Osborne—I am assuming this case for the purpose of my inquiry. When I say here is a plant, I do not mean this plant, I have not in mind this plant at all. I am asking a hypothetical question, any plant.

Q. Assume a plant able to furnish with its existing equipment reasonably adequate service, assume further that the equipment is in the light of the advancement of the art somewhat obsolete; in other words, if you were going to reproduce it, you would not buy that type of equipment, you would buy more modern and up-to-date type, which might possibly cost more. Now, you are asked to determine the value based on reproduction. Would you determine that based on the reproduction value of the existing plant, cost of the existing plant or on the reproduction cost of a very superior plant?

A. I say, I think it is most customary, and in this case I have estimated the value on the cost of reproducing the existing plant, and after reaching the reproduction estimate, I have used depreciation to take care, in my judgment, of the reduction in the worth of the plant due to its age and condition. There are cases, however, in which there have been produced in evidence reproduction costs of a substitute plant, a plant de-

signed specifically at the time for the purpose of giving the same service.

Q. The highest type plant known to the art or the science?

A. But that gets away so far from actual conditions that I have never been able to see where it was valuable, except in a case where there was some question, particularly about whether a plant is overbuilt and the investment was excessive; there you would make an estimate of a substitute plant for the purpose of determining how much the existing plant was overbuilt or overdeveloped for the purpose it had.

Q. (By Mr. Hague.) The reproduction of this plant, Mr. Hill, would not furnish an adequate supply of water for Elizabeth, would it?

A. No, no.

Q. (By Commissioner Osborne.) Because this one does not, does it?

A. I say it would not furnish an adequate supply; they have not the sources of supply.

Q. That is because this one does not?

A. Yes.

Q. Is that the fault of the plant or the fault of the sources of supply?

A. They have not sources of supply sufficient to furnish as much water as they are delivering to the City of Elizabeth, so in lieu or having built such sources of supply, they have purchased water from outside companies and delivered it to their mains.

Q. Have they plant capacity, machinery, pumping stations, piping sufficient, provided they can get the water?

A. They have not pumping stations sufficient to pump the water which is being consumed in Elizabeth.

Q. Assuming it could be secured by them, under most advantageous circumstances, they cannot handle it?

A. In order to supply Elizabeth entirely from their own sources, assuming that they could develop their

sources so as to give an adequate supply, it would be necessary for them to put in additional pumping machinery, additional boilers and additional connections to their mains.

Q. (By Mr. Hague.) And also additional pipes to give sufficient pressure in Elizabeth, would it not?

A. I think the pipe reinforcement is nccessary in the distribution system, yes.

Q. (By Commissioner Osborne.) So that in any event, whether they get their water from their own sources of supply, or purchase it, their equipment is inadequate to meet the demands made upon it.

A. I would like to differentiate. I think they should spend money first for additional sources of supply, and second, I think the capital should be spent for the reinforcement of the distribution system so as to keep the pressures up in Elizabeth.

Q. I do not see anything in that answer that necessarily precludes you from answering my question.

(Question read.)

Q. Can't you answer that question. The trouble with you gentlemen is you will run up blind alleys with your answers.

A. Well, I want to answer your question, but I do not want to—

Q. Isn't it so framed that you can answer it? If you do not understand it, say so an,d I will try to reframe it. If you understand it and cannot answer it, say so. If you understand and can answer it, answer it.

A. I think I cannot answer that question just as it is framed and give you a correct picture.

Q. What I am trying to find out is this: I distinguish equipment from supply, the equipment being the facilities for handling the water, the water being the supply. I understood you to say a few minutes ago that they need more pumps and boilers and what not in any event, whether they got more water from their own supply, enlarged their own supply, or whether they got it from purchased sources. This question is just the same thing

in another form. Whether they developed their own supply, pumping more water out of their own wells, or digging more wells on their own property, or taking a larger volume from any rivers, or wherever they may take it, or whether they purchased it from other companies, they have not enough equipment to adequately supply the population that they have undertaken to supply.

A. I think, broadly speaking, that is so.

Q. (By Mr. Hague.) Do you not think that when you claim a greatly increased cost of reproduction that you should also consider any improvements or advantages which might be obtained by any other type of plant that might be built?

A. Will you read the first part of that question again?

Q. (Question read.) I mean an increased cost over actual cost.

A. I do not know what you mean by greatly increased cost of reproduction.

Q. Over actual cost?

A. I think I have taken all the elements that should be taken into consideration in making the appraisal of this property.

Q. I do not care about that. Can't you answer this question?

A. No; I cannot answer the question the way it is framed.

Q. I will repeat it and see whether you understand it. Do you not think that when you claim a greatly increased cost over actual cost of reproduction, that you should also consider any improvements or any advantages which might be obtained by any other type of plant that might be built?

A. I do not think it is possible to answer that question in that form.

Q. On page fourteen of *Exhibit four*, you say that the amount carried on the company's books as the value of the plant is $2,200,931, as of 1918.

A. Yes.

Q. You then say that a comparison of these figures for the estimated cost of reproduction on the basis of pre-war prices, plus the actual cost of additions from 1914 to 19 , inclusive, is a total of $2,875,236, which indicates that the book value does not include any adequate allowance for miscellaneous construction expenditures or overheads.

A. Yes.

Q. Is this the only reason that you can think of why your estimate did not check with your book value of $2,200,931?

A. No, I do not know whether I would say that.

Q. What other reasons were there?

A. Well, I could assume that there might be some differences in the actual cost as compared with the estimate on the pre-war basis, but I used the best method that I had at hand for comparing the book cost with the pre-war cost in the absence of having the actual cost data.

Q. You have made other appraisals before this Commission in which your figures have been higher than that allowed by this Commission, have they not?

A. Yes.

Q. Do you also recollect that in the original Hackensack Water Company case you agreed to a rate base which was over twenty per cent. less than you had previously testified was the fair value?

A. Well, I do not think that is putting—

Q. Is that so or not?

A. No, it is not so.

Q. Didn't you estimate twelve million dollars as the fair value?

A. Yes. You asked me if I agreed. You must choose your words when you ask me a question. I acted on a Board of Arbitration consisting of the representative of the municipalities, the representative of this Commission, and myself representing the Hackensack Water Company, and that Board of Arbitration, after considering the whole question, decided on a figure which they

recommended to the Board jointly. In other words, it was a compromised total.

Q. Nine and a half million dollars, was it not?

A. Now that I agreed that that nine and a half million dollars was the fair value of the property of the Hackensack Water Company, I never did such a thing. I advised the Hackensack Water Company not to accept that valuation and they never did.

Q. You did agree to the rate base, did you not?

A. No. We agreed that the company—the company agreed, upon my advice, that they would accept the gross revenue based on such a valuation and go ahead and try it out and see whether the rates that produced would be sufficient to enable them to carry on the business.

Q. On page twenty-two of exhibit four, you state that the value of the Piscataway Company as carried on the books, is $414,231, which is 51.5 per cent. of the estimated cost of reproduction as given in your appraisal?

A. Yes.

Q. And 73.6 per cent. of the estimated cost of reproduction of the tangible property on the basis of prewar prices, plus the actual cost of additions, since 1914. Is that correct?

A. There is a good deal to that question. What page is that?

Q. Page twenty-two of exhibit four.

A. Yes, that is correct.

Q. And you again give this as the reason why you consider that overheads were not included?

A. Yes.

Q. I call your attention to the annual report of the Piscataway Water Company for the year 1918, and I show you the item of promotion, $11,677.87, the item of legal expenses, $480.75, bond interest, $2,400; law expenses during construction, $158.20; taxes during construction, $2,922.07; interest during construction, $24,608.80, and ask you if those figures were not included in your figure of $414,231.04, which was the book cost of that date?

A. I would like to check that through and see.

Q. Isn't there something like sixty thousand dollars of overhead included in the books?

A. I would have to check this up with our audit. I am not prepared—

Q. Haven't you checked it before?

A. I am not prepared to answer that question offhand. I am perfectly willing to bring you a statement and give you the facts.

Q. Have you ever seen this book before?

A. Never before. I have never seen this book before.

Q. It is in direct conflict with your statement here on page twenty-two of exhibit four, is it not?

A. No, I don't know that it is. If it is, I will say so after I look into it and find out whether it is or not.

Commissioner Osborne—This book that you show here is from the files of this office?

Mr. Hague—Yes, sir.

Commissioner Osborne—And is the annual report of the Piscataway Water Company for the year 1918.

Mr. Hague—Yes, sir.

Commissioner Osborne—And the question is whether certain items mentioned by you—

Mr. Hague—A number of items.

Commissioner Osborne—Certain items embraced in the report which he has made and produced here were included in this exhibit.

Mr. Hague—Yes; they are shown in that report, and this exhibit there says they were excluded in this figure of $414,231.04.

Commissioner Osborne—You are asking him now whether that is a fact or not?

Mr. Hague—I beg your pardon.

Commissioner Osborne—You are asking whether that is a fact or not, or whether he was mistaken?

Mr. Hague—Yes.

Commissioner Osborne—He says he cannot tell without an examination and checking up, and

that he will do that. Will you make a note to make that answer a part of your—let that be turned in to you as part of the questionnaire.

Mr. Hague—Your Honor, I think Mr. Hill ought to explain that item because there are probably any quantity of discrepancies the same way.

Commissioner Osborne—He may not be able to explain it. Is it apparent on its face? If it is apparent on its face, then he is able to. If it is not apparent on its face, and requires an analysis of figures, naturally he would not be able to. Show me where it is apparent. If it is apparent, I ought to be able to see it.

Mr. Hague—May I ask a question?

Commissioner Osborne—Yes.

Q. Are those overheads that I have enumerated?

A. Some of them are.

Q. Which ones are not?

A. I would not call cartage an overhead. I do not know what right-of-way means here. Promotion expense—

Q. We did not give cartage or right-of-way. The ones checked with a lead pencil check, are they not overhead?

A. I would not call promotion expense an overhead, no. That is part of the organization expense.

Q. But it was included in this figure which you gave, was it not?

A. That is what I am not prepared to say.

Q. Will you add them up and see?

A. I want to take my auditor's report of the books and compare it with this. They are not necessarily the same, and I think I might be permitted to have that opportunity.

Q. By adding those figures will you not be able to check it and see whether it is so or not?

A. I say, I would prefer to go over it. I will give you the answer.

Mr. Hague—There are only two figures for him to check up.

Q. (By Commissioner Osborne.) Is it possible now by comparison of the data before you, the items before you, to answer the question?

A. Mr. Commissioner, I cannot. The thing is this: I have had an audit of the company's books made by an expert accountant, who has been particularly engaged in that class of work and is thoroughly familiar with the Public Utility Commission's system of accounts. Our audits in most of these cases do not always agree with the reports that are turned in by these companies, and I do not want to commit myself without having the opportunity of looking to see just what is in that.

Commissioner Osborne—I can appreciate that but that is not my inquiry. My inquiry is, can you, with the data that counsel is now able to lay before you, that you are now able to visualize, can you, with that information, answer the question, or on the other hand, are these figures the result of a compilation of other figures, which makes it impossible for you to answer the question without being able to analyze the underlying figures.

Mr. Hague—Aren't there two figures you can add together there to see whether it agrees with this four hundred and some odd thousand?

Witness—Two figures?

Mr. Hague—Yes, the capital installed prior to 1913 and the capital installed since.

Commissioner Osborne—Suppose you indicate by your question just what it is he can do that will produce the result you say he can achieve. Then we can all follow you.

Mr. Hague—Take the figures $276,763.93 and $134,587.62.

Commissioner Osborne—What is the first figure?

Mr. Hague—$276,763.93.

Commissioner Osborne—What do you want to do with those figures?

Mr. Hague—Add them together.

Commissioner Osborne—What is the point in that? What do you get?

Mr. Hague—That is the capital installed.

Commissioner Osborne—Don't you think it might be well to tell us what these figures represent?

Mr. Hague—It will produce the same figure Mr. Hill has given here.

Commissioner Osborne—Tell us what the $276,763.93 is.

Mr. Hague—That is capital installed prior to January 1st, 1913.

Commissioner Osborne—Capital installed prior to January 1st, 1913. What is the next item?

Mr. Hague—Fixed capital installed since December 31st, 1912.

Commissioner Osborne—So that gives you the total capital installed to date, or to the date of this report? What is the date of the exhibit?

Mr. Hague—December 31st, 1918.

Q. What does it produce, Mr. Hill?

A. That gives $411,381.55.

Commissioner Osborne—$411,351. I make it.

Witness—Maybe I have copied these wrong. $411,351.55.

Commissioner Osborne—Now, we have proceeded that far and we have, according to your statement of the contents of exhibit three, we have that amount as the total investment up to December 31st, 1918. Mr. Hague, now what is next?

Mr. Hague—Just a second.

Q. Now, add in the item of materials and supplies, $2,897.49.

A. Where does that come from?

Q. That is in your exhibit, table eighteen.

Commissioner Osborne—Materials and supplies of what date, for what purpose, if it is shown?

Mr. Hague—As of December 31st, 1918.

Commissioner Osborne—That is on hand, I suppose?

Mr. Hague—Yes. $2,879.49.

Commissioner Osborne—$414,231.04.

Witness—Yes, that produces, I think, $414,231.04.

Commissioner Osborne—Anything else to be added?

Mr. Hague—No, I just want to ask Mr. Hill a question.

Commissioner Osborne—That is shown on exhibit three.

Mr. Hague—The total amount is shown on exhibit four, volume three, on page twenty-two.

Q. Have you those figures, Mr. Hill?

A. Yes. Adding in that $2,879 gives $414,231.04.

Q. Then it must show that those figures I have enumerated here were included?

A. I am not prepared to say that.

Commissioner Osborne—Now you are jumping at a conclusion. We are trying to find out whether he is in a position to answer this question. You say it must show that; maybe it does. I am trying to get you to lead me step by step, so I can tell whether it must show it or must not.

Mr. Hague—He says in his exhibit here that those items were not included.

Commissioner Osborne—He says what?

Mr. Hague—He says those items were not included; the items I have enumerated here in the report.

Commissioner Osborne—No; he don't say that. He says he don't know whether they were included or not; isn't that right?

Witness—Your Honor, this is the point. I am not attempting to say that they are or are not, now.

Commissioner Osborne—I understand it. You say, without an analysis, you cannot tell.

Witness—What I am prepared to do is to go into this matter and find out and let Mr. Hague know whether they are or are not.

Commissioner Osborne—Mr. Hague thinks he has data right here which will make that unnecessary.

Mr. Hague—I am asking him from his exhibit which he has submitted. I will read from the exhibit itself, if you will permit me. The value of the tangible property and the plant of the Piscataway Water Company as of January 1st, 1919, carried on the books is $414,231.04. See balance sheet table No. 18.

Commissioner Osborne—The value of the Piscataway Water Company?

Mr. Hague—Yes, between page 21 and 22. "This is 51.5 per cent. of the estimated cost of reproduction of the tangible property on the price basis used in this appraisal and 73.6 per cent. of the estimated cost of reproduction of the tangible property on the basis of pre-war prices, plus the actual cost of additions since 1914. Those figures indicate very clearly that the book costs do not include any adequate allowance for miscellaneous construction expenses and overhead properly chargeable against fixed capital account."

Mr. Wherry—Adequate allowance, it says. It does not say it does not include any allowance.

Mr. Hague—It says these figures clearly indicate, the figures indicate very clearly that the book cost does not include any adequate allowance for miscellaneous construction expenses and overhead properly chargeable against fixed capital account.

Commissioner Osborne—Now, what you want to show by this is—

Mr. Hague—That they have put in sixty thousand dollars and more, when they say it is not included in those figures.

Commissioner Osborne—Can't you develop that by appropriate questions? The only difficulty I see with this situation, Mr. Hague, is the manner of its development, that is to say, ask the witness the questions which will develop what you have in your mind.

Mr. Hague—They should not be included in the base cost. They should be included as overhead, the items I call his attention to.

Commissioner Osborne—You state that to me but you want to develop that by answers from this witness, don't you?

Mr. Hague—Yes; that is right. I will ask him the question.

Q. (By Mr. Hague.) Should those items that have been enumerated by me be included in the base cost or as overhead?

A. No, they should not.

Q. Should not what?

A. Should not be included in the base cost.

Mr. Wherry—Which items should not be? He has enumerated six items.

Commissioner Osborne—All of them do you mean?

Mr. Hague—Yes. Do you want me to give you those items?

Witness—I presume I better enumerate the items. The items referred to were promotion expense, $11,687.87; legal expense, $480.75; bond interest, $2,400; interest during construction, $17,850; law expenditures during construction, $158.20; taxes during construction, $2,922.07, and interest during construction, $24,608.80.

Commissioner Osborne—You have given us interest during construction twice. Is it there twice?

Witness—The account is divided into plant installed prior to 1913, and subsequent to 1913.

Q. (By Commissioner Osborne.) What was the tax item after law expenses?

A. The taxes?

Q. Yes, the taxes?

A. $2,922.07.

Q. And the interest, the last item?

A. Interest, $24,608.80.

Commissioner Osborne—The question is whether those items can be classified as overhead.

Mr. Hague—Whether they should not be classified as overhead.

Witness—The promotion expense should not be classified as overhead, but the other items should be classified as overhead.

Q. (By Mr. Hague.) Then the promotion expense should not be included at all, should it?

A. No, the promotion expense should go in as part of the organization and preliminary expense.

Q. Then the base cost should be how much less, Mr. Hill, than if you set forth here in this exhibit?

A. I told you I cannot answer that question without going into it.

Commissioner Osborne—Wait a minute. You are going too fast for Mr. Hill. Mr. Hill, your exhibit presumably includes the figures so far as they were taken from the company's books, although perhaps set up in a different form than in that report before you?

Witness—I think that is so, yes, sir.

Commissioner Osborne—If they do not, it was an error. In other words, that is within the period covered by your summary.

Witness—No, I cannot say that, Mr. Commissioner. I want to find out whether—

Commissioner Osborne—I do not care what you want to find out. I want you to stick to my question. I am not going to have witnesses getting away from the question. Do you know the date of that report?

Witness—Yes.

Commissioner Osborne—Do you know the date of your exhibit?

Witness—Yes.

Commissioner Osborne—Presumably the underlying data for that report, as to costs and so forth, is reflected in your exhibit?

Witness—Yes, sir.

Commissioner Osborne—See how much faster we move when you answer the question?

Witness—I try to answer everything I can, Mr. Commissioner.

Commissioner Osborne—I know. The question then is whether there are overheads in that report, in the figures reflected in that report that are also contained in the $414,231.04?

Witness—And that is the question I cannot answer.

Q. (By Mr. Hague.) With those figures before you, you cannot answer it?

A. Not with those figures before me. I should have to look up the abstract.

Q. Even though the items coincide to the cent?

A. I don't know that the items do coincide to the cent.

Q. You have just figured them up?

Commissioner Osborne—He did not add up those figures.

Witness—The totals coincide.

Mr. Hague—The Court has added them up. We have added them up.

Commissioner Osborne—Is the total shown there?

Mr. Hague—The total of the three items we gave will make $414.231.

Commissioner Osborne—Yes, that is true, but what is there to indicate—

Mr. Hague—That is the figure he gives in his exhibit as to the Piscataway Company.

Commissioner Osborne—But what is there to indicate necessarily that these various items of legal expense, bond interest, interest during construction and so forth, which he says are overhead, and which appear there, are in that exhibit? What is there to negative the idea that in making up that exhibit they did not exclude those items?

Mr. Hague—Because it checks with the report.

Commissioner Osborne—Which report?

Mr. Hague—Which does include it, the report filed before the Utility Commission. Each year it is filed. Here is the 1920 report, the same way.

Commissioner Osborne—What checks with the report?

Mr. Hague—This $414,231.04 will check with the figures as shown in the report.

Witness—Mr. Commissioner, if I come in here, after looking at these books, and tell Mr. Hague that they have been included and should be excluded, which I am perfectly willing to do if I find it is so; isn't that perfectly satisfactory?

Commissioner Osborne—Only it all takes time and Mr. Hague is rather insistent on your doing it now. What I am trying to do is to find out whether it is reasonable for him to insist, or whether you are justified in saying you cannot tell from this casual inspection. You see, Mr. Hague, the witness is not responsible for that other report. He is responsible for his exhibit.

Mr. Hague—And is responsible for his reasoning.

Commissioner Osborne—Exactly. He is responsible for his exhibit and everything that goes with it. He is not responsible for these reports. He did not file them.

Mr. Hague—But his report is made up from those reports and the books of the company.

Commissioner Osborne—The question now seems to me to be whether without the benefit of the underlying data he is able to say that certain items which you indicate in the report filed by the company are or are not included in his *Exhibit three,* is that the idea?

Mr. Hague—Yes. It seems to me, Mr. Hill has gone over this report for months, and he submits this as his figure taken from the company's books. The report filed with this Commission reflects the figures from the company's books and he knows how those figures are arrived at, and he says here they are not included, but it is impossible, and he no doubt knows as an expert that it is impossible to get those figures in any other way.

Commissioner Osborne—He says he did not make up these figures. As a matter of fact they were made up by an accountant employed by him for that purpose.

Mr. Hague—As a matter of fact these exhibits have been produced here, and Mr. Hill has been produced as a witness for cross-examination on the exhibit.

Commissioner Osborne—Yes, he has followed the exhibit. He says, I think he said he did not personally do every item and make every calculation in making up this vast exhibit here which is contained in several volumes, and some of them quite bulky. We all know as a practical proposition that an engineer has to have assistance in making up reports of this kind.

Mr. Hague—We are going through here after any quantity of labor picking out these items and every time we seem to figure on some item which shows a glaring error, the witness finds refuge behind the fact that he did not prepare

those figures. He is the party who is responsible for these figures.

Commissioner Osborne—You are entitled to your answer; the only question is whether you are entitled to have it now, or whether the witness is entitled to be sure of his ground before he replies to it. Can you point out, Mr. Hague, to me, so I may rule on the question, where in the witness can determine from an inspection of data now before him, this exhibit and this report, what the answer to that question is? If you can, I will ask you to answer the question. You say it is apparent on the face of the data.

Mr. Hague—We point out that the fixed capital before 1912 was a specific amount, the fixed capital since that date, of the company, is a specific amount, and the item of materials and supplies is another amount, and that produces this amount, $414,000, which Mr. Hill has said in his inventory and appraisal is the amount—

Commissioner Osborne—You say that produces it? Who produces it?

Mr. Hague—The total amount that Mr. Hague produces, or the company, by adding those three items together. If Mr. Hill can explain any other way by which those figures are arrived at—

Commissioner Osborne—Let me see if I follow you. His exhibit shows that the company's value on the basis of expenditures, I take it, was $414,231.04 on December 31st, 1918; doesn't it?

Mr. Hague—$134,587.62.

Commissioner Osborne—No. $414,231.

Mr. Hague—Yes.

Commissioner Osborne—The report filed by the company shows certain items of overhead totalling how much?

Mr. Hague—Thirty-five or forty thousand dollars; I haven't got the exact figure.

Commissioner Osborne—I thought you had it added. What is there? Show me what there is on the face of these papers to indicate that these items of promotion expense, bond interest, interest during construction, law expenses and taxes and interest during construction are or are not included in the item of $414,231? What is there that demonstrates that?

Mr. Hague—It is in the report filed here by the company.

Commissioner Osborne—Let us see it. I think we are wasting a lot of time because we are trying to take more time to find out something that is perfectly obvious.

Mr. Hague—Those figures here (indicating), those are expenditures prior to January, these are the expenses since, and that total figure and this total figure—

Commissioner Osborne—Don't you know when you talk about that total figure and this total figure, it don't mean anything on the record?

Mr. Hague—I will read from those books.

Commissioner Osborne—You can ask a question which will make our record clear and from which I can put down the figures here to follow you.

Mr. Wherry—Even if those amounts were in there the gross amounts would now show the allocations were correct.

Commissioner Osborne—I don't know what it will show. I am trying to get counsel to so frame his examination that it will be apparent, because unless it is apparent, I think the witness' position is perfectly correct. That is to say, that there is something there that he is not able to determine from a casual inspection of the figures before him, but he needs his underlying data. The only difficulty is I do not see why it would

not be just as well to get this information some other time.

Mr. Hague—I am trying to frame my questions to meet the objections of your Honor.

Commissioner Osborne—I am not making an objection; I am looking for light.

Q. (By Mr. Hague.) Mr. Hill, will you turn to page twenty-two of exhibit four, volume three?

A. Yes.

Q. You have there in the second paragraph an item of $414,231.04?

A. Yes.

Q. What does that represent?

A. That represents, as stated, the value of the tangible property and plant of the Piscataway Water Company as carried on the books January 1st, 1919.

Q. (By Commissioner Osborne.) Does it say tangible?

A. Yes, tangible.

Q. (By Mr. Hague.) The total value?

A. Yes.

Q. In this paragraph on page twenty-two, exhibit three, you say that these figures indicate very clearly that the book cost does not include adequate allowance for miscellaneous construction expenses and overhead properly chargeable against fixed capital account, do you not?

A. Yes.

Q. Now, I ask you, whether it includes the item of promotion expense of $11,677.87 as shown by the report to the Public Utility Commission under date of December 31st, for the year ending December 31st, 1918, under the caption, "fixed capital installed prior to January 1st, 1913?"

A. That I do not know until I go back and have access to the abstracts taken from the company's books.

Q. Can you not tell whether it includes that item, by an examination of this report?

A. I cannot. That report is not my abstract of the books.

Q. Is this report supposed to be a complete and true duplicate of the figures taken from the company's books covering that subject matter?

A. No, not necessarily.

Q. (By Commissioner Osborne.) What do you know about it? How do you know?

A. I say, not necessarily.

Q. You did not make that report, so you do not know what it is supposed to be? He asked what that report is supposed to be and you are presuming to tell him.

A. I did not understand the question. I thought he asked me what my figures were. That I do not know.

Q. (By Mr. Hague.) It is your understanding, Mr. Hill, that this item of $414,231.04 does not include the allowances for construction expenses or overheads properly chargeable to fixed capital account, is that so?

A. That is my understanding. If I am wrong, I want to go and see and tell you so, if I am wrong. That is all I want the opportunity of doing.

Q. Is your information applying to the other companies in this case equally clear?

A. I cannot answer that question. I can look it up in the case of each company.

Q. Do you know any more about the other companies than you do about this one, as shown in this appraisal presented by you?

A. No, I do not.

Commissioner Osborne—Is that all on this line?

Mr. Hague—Yes.

Commissioner Osborne—You started in to undertake to demonstrate how we could prove by the papers here before you that Mr. Hill could answer that question.

Mr. Hague—I am still of the opinion that he could answer it.

Commissioner Osborne—But you have not demonstrated it. How are you going to get away from his answer? The only way you can

meet that is to either accede to it or demonstrate by reference to figures that he can answer it. If you cannot do that, we may as well stop and give him an opportunity to answer his question by reference to his underlying data. If you have anything there to prove that he is wrong in his reply, produce it and refer to it.

Mr. Hague—I will ask him just one question.

Q. Mr. Hill, does the item of $414,231.04 include construction expenses and overheads properly chargeable under fixed capital account?

A. I say in my exhibit that it does not, and that is the best information that I have at hand to date. If that is not so, I will correct the statement by looking up my papers.

Q. Will you check up your papers and be prepared to give a positive answer on that at the next opportunity?

A. I will.

Mr. Hague—I will ask that Mr. Hill's answer to that question, after checking up, be furnished.

Commissioner Osborne—Very well.

Q. Did you attempt to make any further study of why it was that you were so much higher in your pre-war estimates than the actual costs of the company indicated?

A. No.

Q. You further stated that even if seventeen per cent. were added for these overheads, that the investment value was still only 86.1 per cent. of the cost of reproduction?

A. The pre-war basis.

Q. Yes.

A. Yes.

Q. That is applying to the Piscataway Company?

A. Yes.

Q. When was the Piscataway Company first started?

A. I would have to look that up. About 1910, I should say.

Q. Weren't the books of the Raritan Township Water Company— .

A. At little later than that. It was about—it started about 1913.

Q. Weren't the books of the Raritan Township Water Company and the Piscataway Water Company kept by the same individuals as the books of the other companies?

A. Yes, I think they were.

Q. You will find on page thirty-six of the same exhibit that the Watchung Water Company carried as its book value $201,012.

A. What page is that—thirty-six, did you say? I have it.

Q. The value of that was $201,102?

A. Yes.

Q. Was the management of that company changed?

A. Yes. That company changed hands several times.

Q. Was it feasible to get the actual book cost; was it not feasible to get the actual book cost?

A. No, I think it was not.

Q. Why not? Didn't they have records covering it?

A. What?

Q. Were there no records covering it?

A. The records were not sufficiently in detail.

Q. It is true, is it not, that included in these book costs for these companies there is not only the existing useful property, but also all property of the company which has been abandoned?

A. Well, I am not prepared to say that all property which has been abandoned is included, but I do think that it is probable that some of the property which has been abandoned is included; how much, I cannot say, from the records.

Q. (By Commissioner Osborne.) Nothing in the books to indicate?

A. No, I do not think it could be followed through and picked out in every case.

Q. How many of these companies did you attempt to value, either by reference to the historical book value,

or where you could not do that, by an estimated value, how many of these underlying companies that compose this whole system?

A. All of them.

Q. All of them, and they are all valued in the same way?

A. They are all valued in the same way.

Q. I take it that there are several companies that compose this group?

A. Yes.

Q. And that you valued them separately?

A. Yes.

Q. That is to say, we valued the Piscataway and the Raritan?

Mr. Wherry—The Watchung, the Raritan.

Q. And the Watchung and the Raritan?

A. Yes.

Q. These were not all combined in one total valuation, but were separately valued?

A. Were separately valued.

Q. Where you could you had reference to the book value, the actual moneys expended, is that right?

A. Yes.

Q. And in some instances you were able to get reasonably accurate results?

A. Yes.

Q. Because of the fact that the books had been properly kept and the records preserved, is that right?

A. Yes.

Q. In other cases you were not able to?

A. That is correct.

Q. Where you were not able to, then you were obliged, as I understand it, to make an estimated valuation, using your experience and training and judgment, and that you did?

A. Yes.

Q. Where you were able to get reasonably accurate book records what did you use, those records or your estimated value?

A. In every case I have used an estimate based on the actual costs as I could determine, with an allowance for what I consider is a fair permanent increase in the price basis as a result of the war.

Q. So you applied that method to all?

A. Yes.

Q. Regardless of whether you could find records or not?

A. Yes.

Q. What relation or bearing did the records have on the case where you found the records complete, just to check up your conclusions?

A. To check up. We have, in every case, set up for each of the constituent companies the book value and the reproduction estimate made on the pre-war basis, checked against the book value, and an estimate based on figures which, in my judgment, I felt represented a fair permanent set in prices.

Q. Counsel referred to the Piscataway Company, the difference between your book value and your estimated value. The book value is, I believe, $414,231.04. What was the estimated value, do you know that?

A. My estimate of the value of that property with the permanent set—

Q. How much was it in figures?

A. I am just looking for it. $750,000.

Q. How do you account for the wide difference between the actual cost of that property shown by its books and your estimate of its value?

A. It is due to the change in the price basis largely, and to the fact that I do not believe that all of the charges that enter into the property were included necessarily on the books.

Q. As I understand, all of the property that has disappeared has been entered on the books?

A. Yes, sir.

Q. In other words, the property has disappeared and has not been written off.

A. That would not be true in the case of the Piscataway.

Q. It would not be?

A. No. But in the case of the Elizabethtown Company, which has a very long history, and where the old original books were nothing more than a cash book, like a corner grocery store keeps, where there would be entered John Smith, $2,500, without any reference to what the entry was for, and no appreciation of obsolescence or crediting for discarded property, I am not prepared to say that there was not plant carried over from year to year that probably had been discarded. How much that amounts to I don't know. I have given the book value for what it is worth, $2,200,000. How many items that should have been charged to capital account and were not charged to that, I am not prepared to say, and could not say from that record.

Q. The books are not sufficient?

A. The books are not sufficient.

Q. (By Mr. Hague.) You just stated that the cost of reproduction of the Piscataway Company was $750,000.

A. Yes.

Commissioner Osborne—His estimated cost?

Witness—My estimate.

Q. Table sixteen, exhibit four, following page twenty, two pages beyond page twenty—

A. Table sixteen?

Q. Table sixteen, following page twenty; you give the gross cost of reproduction there as $803,948, do you not?

A. That is the cost of reproduction, yes.

Q. Then you were wrong as to the $750,000?

A. No, I was not.

Q. What did that $750,000 represent?

A. I made an estimate—

Q. What does it represent?

A. It represents my judgment of the fair value of the property.

Q. Present value?

A. Yes.

Commissioner Osborne—I do not think you said that before.

Witness—What?

Commissioner Osborne—You did not say that before.

Witness—I did, in my direct testimony.

Commissioner Osborne—I am talking about your testimony right now. That is what misled Mr. Hague.

Q. That is after depreciation has been taken off?

A. Yes.

Q. The book cost is $414,000, is it not, $414,231.04, is it not?

A. That is the book cost of the tangible property, yes.

Q. There is no depreciation taken off of that, is there?

A. No.

Q. And you value the same property with depreciation at $750,000, do you?

A. No, I did not. I estimated the value of this property, both tangible and intangible was $750,000. The item of $414,000 is the cost of the tangible property as shown by the books.

Q. (By Commissioner Osborne.) Do the intangibles usually amount to one hundred per cent. increase over the tangibles?

A. No. My estimate of the cost of reproduction, of the present depreciated value of the tangible property is in excess of what the books show.

Q. What is the usual percentage to be added for intangibles?

A. I think it will run between—in cases which I have followed up, from eight to twenty per cent., five to twenty per cent. I use usually from eight to ten per cent.

Q. (By Mr. Hague.) Your table number sixteen, exhibit four, $803,948, does that include intangibles?

A. No, that is my estimate of the cost of reproduction of the tangible property.

A. Yes.

Q. Of the tangible property?

A. Yes.

Q. And the same cost that corresponds with that, the actual cost is $414,000, is it not, roughly?

A. Yes. That is the book cost; I won't say it is the actual cost.

Q. Are you making up, in regard to these questions that you are going to furnish answers to, the depreciation?

Q. It is covered, is it?

A. Yes.

Q. In computing your taxes, you have assumed that the municipalities will tax the company at the full value for this property as you have given it in your schedule, have you not?

A. Yes.

Q. In computing the Federal tax, you have computed the company would have to pay providing they received rates as you have indicated in this report?

A. Yes.

Q. And on the basis of the 1920 tax laws?

A. Yes.

Q. The difference between the actual taxes paid by the company at the present time and the taxes which would be paid on your assumption is $146,000 for the Elizabethtown, $36,000 dollars for the Piscataway Water Company, $10,000 for the Raritan Company, $14,000 for the Watchung Company, making a total in round figures of $206,000 increase in taxes.

A. I will assume that those figures are correct. I have not had time to run through and check them up.

Commissioner Osborne—Assuming they are correct what is the point?

Q. These taxes are of course entirely subject to your assumption as to value being taken by the assessors, and to your assumption of the required revenue of the company; such increase in taxes will not be incurred unless the rates are increased, will they?

A. Well, I can answer that question a little differently, I think.

Q. You can answer whether it will or will not, can't you?

Commissioner Osborne—Isn't it a self-evident proposition; does it require an answer? The taxes will not be as much if the rates are not so much, the values are not as much.

Mr. Wherry—The taxes are based on revenues.

Mr. Hague—This is the witness' theory.

Commissioner Osborne—Isn't his theory perfectly sound; do you contend that it is not sound?

Mr. Hague—No. I do not contend that that would not be correct, but I want to point out the fact that it is based on that assumption on his part.

Commissioner Osborne—If there is any purpose to be accomplished by pointing out an obvious fact, why proceed.

Q. Mr. Hill, in your direct testimony, did you state that your appraisal was what you considered it would cost to reproduce the plant in 1930?

A. I don't know that I said exactly that. I said I was endeavoring—

Q. Did you say about that time, about that year?

A. I said what I was trying to do was to get a price basis which would be as nearly as it is humanly possible to have it, to one which I could obtain by looking back from 1930; that is, if I had hind sight instead of foresight.

Q. Does the cost of work done in 1919 and 1920 represent what you expect it will cost in 1930?

A. No.

Q. Or thereabouts?

A. No, it does not.

Q. Will it cost, in your opinion, less around 1930 than it did in 1919 and 1920?

A. Assuming no violent disturbance like the present war, if things settle down normally, and the world is at peace, I should expect prices to gradually fall, but I do not expect that they will go to the pre-war basis.

Q. Why did you include the actual cost of work in 1919 and 1920?

A. Because we had the data on that, and this appraisal was originally made up of 1919, and we simply took the items off the books for those two years.

Q. The books would also show the actual cost of items back to practically 1912, would they not?

A. I cannot say just how far back we could have gotten actual cost.

Q. You could have used figures though back pretty near to that time, couldn't you, the same as you did for 1919 and 1920 figures?

A. I presume I could, yes.

Q. In your direct testimony, did I understand you to say that you recommended to the companies that they take advantage of their capitalization and that their rates be based on a net capitalization or an amount necessary to meet their fiscal requirements?

A. Yes.

Q. On page thirty of exhibit five, you give the total cost of collecting, pumping and transporting water by the Piscataway Water Company as $131,294, do you not?

A. The total cost of transporting water?

Q. Yes, collecting, pumping and transporting.

A. How much?

Q. $131,294.

A. Page thirty?

Q. Just a second. We have the wrong page. Page twenty.

(Question read.)

A. Yes, that is the total cost chargeable to the Elizabethtown Water Company.

Q. And on page eighteen you give the total amount of water furnished to the Elizabethtown Company by the Piscataway Company as 821,750,000 gallons.

A. 832,000,000 gallons, isn't it?

Q. 821,750,000 gallons at the botton of page eighteen.

A. Yes.

Q. Do you think that a fair charge for furnishing and delivering 821,750,000 gallons, $131,000, or substantially $160 per million gallons?

A. I do not know what you mean by a fair charge.

Q. That makes $160 a million gallons, does it not?

A. I have not figured it out on the million gallon basis. I will accept your figures as being correct.

Q. Do you think water is worth $160 a million gallons?

A. That depends upon circumstances.

Q. In this particular case, do you consider that a high price?

A. I consider $160 is a high cost for water.

Q. You do consider $160 as a high cost?

A. Yes, I do.

Q. But that is the figure you are asking the Elizabethtown to pay to the Piscataway Company?

A. Yes, I think that is a proper price for that service.

Q. What are they actually paying?

A. About forty dollars a million.

Q. Isn't it thirty-five dollars?

A. Not according to my figures.

Q. Can you tell by reference to the report?

A. I do not see the price in here.

Q. Isn't the amount received by the Piscataway Company—

A. No, that is not the total charge for water purchased from them; that is only a part of it.

Q. What part of it?

A. I am not familiar with that, but it is apparently a charge, a rate per thousand gallons that is being paid in thousand gallons, but in addition to that there are other charges in connection with this.

Q. What are the charges?

A. I have taken the total cost of the Piscataway Water Company and divided that to find the cost of the water. It is forty dollars a million.

Q. You are of the opinion it is about forty dollars a million?

A. Yes.

Q. That they are actually paying at the present time?

A. Yes.

Q. In your appraisal you think the Elizabethtown Company should be increased from forty dollars a million to sixty dollars a million, do you?

A. Yes.

Q. That Elizabethtown should pay the Piscataway Company that amount per million?

A. Yes.

Q. How about Watchung? Do you propose under your appraisal to pay the Watchung Company $160 per million gallons also?

A. I do not remember what the figure is for Watchung. The Elizabethtown Water Company, the proportion of the Watchung chargeable to them for approximately 10,000,000 gallons is $160.

Q. $160 a million gallons?

A. Yes.

Q. How much are they paying now, how much is Elizabethtown paying Watchung now for water?

A. Elizabethtown is paying Watchung now—

Commissioner Osborne—Is the answer contained in the report?

Witness—I was trying to find the figures. I have a figure here, but it does not seem to me it is correct.

Mr. Hague—He does not find the figures he wants in the report. We showed him the report before.

Commissioner Osborne—Of course, if the figures are in the report, there is no purpose to the question because that is already in evidence, unless you want to use it as a basis for contradiction and comparison.

Witness—It is forty dollars a million.

Q. The Watchung receives forty dollars a million from the Elizabethtown?

A. Yes.

Q. And you propose to raise it to $160 a million?

Mr. Wherry—That is not the schedule filed, you know. The schedule filed is forty per cent. increase.

Mr. Hague—Taking his exhibits here—

Mr. Wherry—That is all right; the exhibits show what they should have, not what we have filed.

Mr. Hague—It is forty per cent. increase for these companies?

Mr. Wherry—Forty per cent. for the Watchung Company.

Mr. Hague—What is it for Piscataway?

Mr. Wherry—Piscataway, the increase is $65,000 per year in addition to the $35,000 per million gallons. You see, every year there has been a deficit that has been advanced to the Piscataway Company.

Commissioner Osborne—Have you filed these rates, based upon the additional revenue the companies need, to meet their situation?

Mr. Wherry—Yes. Mr. Hill's report to the company was a survey of what the company ought to have in order to get a fair return on the fair value of the property. We then made a survey to determine the lowest rate the company could get along with in order to do its financing, taking into consideration what we call the psychology of the situation. Instead of asking for a seventy-nine per cent. increase on the Elizabethtown system, we asked for fifty per cent. increase, because there is no question that there is an impression among the public that prices have come down a great deal more than they have. Your Honor is familiar with Commissioner Perry's statement in regard to the attitude of the public toward increases.

Commissioner Osborne—We do not have to go to Commissioner Perry or anyone else to get that reflex.

Mr. Wherry—But I mean we had that sort of thing, we took that into account. Of course what we are attempting to do here is to get sufficient income to make these capital improvements that we have to make, and refund the bond issue that has now matured, and the other indebtedness which we are carrying.

Commissioner Osborne—Could these companies operate more economically and give the public better service at lesser rates by consolidation than by operating as separate entities; do you think they could, Mr. Hill?

Witness—Yes, sir.

Mr. Wherry—Just as soon as this base is fixed we will take up that question of consolidation.

Commissioner Osborne—Won't that mean then a new base, a new proceeding?

Mr. Wherry—I do not think so. We have got to use as the basis of consolidation the rate base.

Commission Osborne—You mean to say you have to have the rate base, which will reflect a valuation, in order to effect a consolidation?

Mr. Wherry—Exactly.

Commissioner Osborne—Because of the necessity for an equitable distribution and exchange of stock, is that it? Otherwise you have no basis upon which to go to your stockholders.

Mr. Wherry—That is it. The same problem confronts us in the case of the Elizabethtown Gas Light Company. We could come in and ask the Commission's leave to consolidate those companies and have an appraisal made for consolidation, and then afterwards bring up our rate base, but we had to get the rates and we came in on the valuation there.

Commissioner Osborne—I thought these companies were all owned by the same interests.

Mr. Wherry—These companies practically are owned by the same interests, except they have affiliations with some other companies.

Commissioner Osborne—Why is it necessary, in order to make this exchange and effect this consolidation, to have all these questions determined, because it looks to me as though having determined it in this proceeding, one company is buying from another and there is a multiplicity of bookkeeping and interchange of accounts which complicates the situation, and when that is done we will simply have to turn right around and do the same thing over again for the Consolidated Company?

Mr. Wherry—I really do not see that because we could take the basis of valuation as the basis of consolidation. We have treated them as if consolidated here.

Commissioner Osborne—That is all right if it was merely a question of valuation, we could value them as separate units and then add the whole together after they had been consolidated, because you would not be valuing the same thing twice; but what about the rates?

Mr. Wherry—The rates are allocated just exactly as if they had been consolidated. We have treated them exactly as if they had been consolidated.

Commissioner Osborne—All this question of how much they pay for water to the underlying companies is rather an academic question.

Mr. Wherry—Well, except—take the case of the Piscataway Company; they have been paying for their water in this way; they have been paying $35 per million gallons and in addition to that every year there has been a deficit in earnings on that company and the Elizabethtown Company advances to them that deficit. We are proposing, instead of doing that, to make the charge a fixed charge of so much for the carrying expenses of the company, additional to the thirty-five dollars.

Commissioner Osborne—Perhaps it makes no difference, but it seems to me the whole thing would be very much simplified if we affected our consolidation and got the thing down to a single sound basis, and then determined the value and the rate; however, I do not know that we have any power to force that.

Mr. Hague—The company is practically all owned by the same interests. Mr. Wherry, you stated here that the Piscataway Company receives thirty-five dollars per million gallons of water. Mr. Hill was very positive it was not thirty-five dollars when I asked him, but forty dollars. Were you wrong or was he wrong?

Mr. Wherry—He said thirty-five dollars was the payment per million gallons for water, but it did not cover all that they received.

Mr. Hague—Where else is there some other charge in some other way?

Mr. Wherry—The Piscataway Water is all furnished to Elizabethtown, and they are paying so much on the bookkeeping entry, and then they advance them the difference; they made a deficit every year.

Mr. Hague—Money that is owing from the Piscataway to the Elizabethtown, is that it? There is no interest paid on that and they receive water in lieu of it; is that it?

Commissioner Osborne—A matter of bookkeeping, one owes the other.

Q. (By Commissioner Osborne.) Mr. Hill, why and in what respect would it be more advantageous to the public and more economical to operate and therefore more advantageous to the public to consolidate these companies?

A. What I meant was that if the entire physical property was carried under one mortgage into one company, it would simplify all of the bookkeeping methods. You would have the rate structure based on the underlying

values of the entire property and it would simplify things right straight through, and with that in mind, this whole appraisal, allocating the cost between the different properties. I have attempted to place the costs at exactly what they would be under consolidation so as to work out what the consolidated companies would be.

Q. Could the consolidated company operate more economically?

A. I do not think it would be able to shut down any stations or cut off any operating expenses. It would simply be that you would have a very much closer organization and you might save a little in your accounting expense.

Q. Would the consolidated company be able to sell water any cheaper to the public?

A. I doubt it.

Q. Does the fact that the distributing company has to buy water from these underlying companies, and they have to make earnings and distribute dividends, add anything to the expense to the public?

A. As a matter of fact, the rates at which the Piscataway, the Watchung and the Raritan Township Water Companies have been furnishing water to the Elizabethtown Water Company have been insufficient to enable those companies to pay their own expenses and the Elizabethtown Water Company has been required to advance them money in the form of loans to keep them going and pay interest on their bonds and so on. So that actually there would not be anything gained in actual savings. But I figured this all out on the basis that each of these companies would take care of themselves, just as they would if they were all consolidated together. But I do think there would be a great many advantages from the operating viewpoint, from the accounting viewpoint, simplifying questions coming before the Commission, things of that kind, to have the companies consolidated.

Q. (By Mr. Hague.) Was there any money put in these companies, the Piscataway, the Raritan and the

Watchung. Was there any money put in these companies outside of the money loaned by the Elizabethtown Company to them, outside of the bonds?

A. I could not answer that question.

Mr. Wherry—May it please the Commissioner, there is one thing I would like to clear up. I might have given a wrong impression. The Elizabethtown Company does not own the stock of these underlying companies. They are owned by t he same interests. So you cannot treat it as a merged company by that stock ownership. They have been talking about not merely consolidating these companies, but consolidating some of those other companies that would be interested in that Millstone development, but we are not waiting for that. We want to go on with our own problem.

Q. Mr. Hill, in addition to the amounts paid by the Elizabethtown to the Raritan and Piscataway—the Watchung and Piscataway Water Company, the Elizabethtown has to pay to the Raritan Water Company for transporting their water through their pipe system, does it not?

A. Yes.

Q. How much does that amount to per million gallons?

Commissioner Osborne—How much longer will your examination take?

Mr. Hague—There are a few questions that Mr. Hill is to answer. I would say probably a couple of hours and we would be through with Mr. Hill, possibly less than that, maybe an hour and a half.

Commissioner Osborne—You do not want to try to finish to-day?

Mr. Hague—I do not believe we can finish to-day.

Commissioner Osborne—Will you have anything further to offer?

Mr. Wherry—I was going to call an expert on the rate of return and also one of the company's officers.

Commissioner Osborne—I suppose we may as well be prepared to spend the winter on this case then, because at the present rate we are going, it is going to take some time. Of course it is your duty to call anybody you think necessary. I was hoping we were coming to the end of it.

Mr. Wherry—We have got to call a real estate expert. Mr. Hague wants to ask some questions on the real estate.

Commissioner Osborne—Can't you gentlemen get around a table somewhere and agree on some of these self-evident facts? There are certain things that there is no dispute on.

Mr. Hague—We cannot very well agree. We think they are getting enough for water at the present time and they think they are entitled to more.

Commissioner Osborne—Of course they are entitled to enough revenue to run the company, whatever that may be. I do not know whether they are getting enough for that. They cannot run it without money, and the only place to get money is from the rates.

Mr. Hague—There is no evidence introduced to that effect as yet, your Honor.

Commissioner Osborne—Do they have to introduce evidence to show their source of income must be the rates, and that they need enough rates to meet operating expenses, and that they are entitled, as a matter of law, to earn a reasonable return on the investment? You know, we will agree to all those elemental principles.

Mr. Hague—They have not shown that yet. They have shown, as to the cost of reproduction of this property, that they are not receiving enough.

Commissioner Osborne—Well, they say that is the value of the property; they have introduced evidence as to the value of the property. You are going to introduce evidence to the contrary, I suppose. I thought possibly there were certain things you gentlemen could agree upon.

Mr. Hague—Mr. Wherry and I, I think, will simplify the real estate men to a certain extent. There are only a few questions I want to ask them; I am not going into detail; just a few questions I want to ask.

Mr. Wherry—I can close my case on the next hearing.

Commissioner Osborne—It will depend a good deal on the length of cross-examination.

Mr. Wherry—Yes. He says two hours for further cross-examination.

Commissioner Osborne—When do you want to go on?

Mr. Hague—I think two hours will cover all the cross-examination, will complete our cross-examination of Mr. Hill; probably a little less.

Commissioner Osborne—Have you any special preparation in connection with the additional information that is wanted? Do you require time?

Mr. Wherry—I do not know that there is. We are pretty nearly through with the questions that have been asked. I think that questionnaire covered most of these points.

Of course these rates go out with the January 1st bills unless there is some change in it, you understand that, Mr. Hague?

(Informal discussion as to adjournment.)

Mr. Hague—I understand, Mr. Wherry, Mr. Kean to say that the increased rate had been put into effect on the metered water; is that so?

Mr. Wherry—He said the rates had been suspended, the period of suspension had expired, and the rates are in effect from October 1st. The increase has not been billed. The notice was that they would be billed at the end of the quarter.

Commissioner Osborne—The rates have never been suspended?

Mr. Wherry—They were suspended for six months.

Commissioner Osborne—They were suspended for six months?

Mr. Wherry—That expired October 1st.

Commissioner Osborne—First three months and then three more months?

Mr. Wherry—We voluntarily extended for three months beyond that practically, that is, we notified them we would not bill them.

Commissioner Osborne—That is to January 1st?

Mr. Wherry—Yes.

Commissioner Osborne—We have no further power of suspension.

Mr. Hague—Of course, the first three or six months of this case the Board of Utility Commissioners had it under advisement, whether they would entertain the schedule of rates, owing to the fact they were not giving adequate service at the time, and it had been admitted. The question was if they had standing in court.

Commissioner Osborne—Wasn't that pending the determination of the case on appeal?

Mr. Hague—No, pending the decision of this court, whether they would entertain the rate case. I do not know what disposition was made of that by the Board.

Commissioner Osborne—That was because of the pending appeal?

Mr. Hague—No.

Mr. Wherry—Yes, I suppose it was. The appeal was decided a very short time after that case came up.

Commissioner Osborne—That was a service case?

Mr. Wherry—It was not a service case, but the first day that was set for hearing on this rate case, Mr. Herrmann raised the question whether the Board would entertain it while the meter order was not complied with. We briefed the question as to whether we had a right to be here, and then the Supreme Court reversed the order in regard to the meters, and the Board set a day for the case and it came on for hearing.

Mr. Hague—It was not alone the fact of obeying the order of the Board in regard to the meters, but it was the question of whether they would entertain the proceeding to increase rates where the company was not furnishing adequate service. That was Mr. Herrmann's point.

Mr. Wherry—I don't know what his point was, but as soon as the Supreme Court case was decided, the

Board said it was conclusive of the point raised by Mr. Herrmann, and they would go ahead, as I understood the record. It is right in the first part of the record.

Commissioner Osborne—It becomes academic at this time at any rate.

Mr. Wherry—These rates were filed to go into effect April 21st.

Commissioner Osborne—They are not in yet.

Mr. Wherry—No revenue has been collected from them. We have extended them. We have stated that we would not bill, although they are in effect October 1st (the power of suspension had expired by that date), we would not bill the increase until the end of the quarter, because we thought this would be determined by that time.

Mr. Hague—That is why the case has not been decided, it was hanging fire, nothing done in the matter for so long, waiting for a decision.

Commissioner Osborne—How many witnesses are you going to produce when they come to it, when they close their case?

Mr. Hague—I do not imagine we will have more than three.

Commissioner Osborne—Experts?

Mr. Wherry—No; just one expert.

Commissioner Osborne—Will you be ready the next time to put your witnesses on?

Mr. Hague—I will not be ready at the next time. I do not believe that the cross-examination will be finished next time, or more than finished. You have a financial man to put on the stand.

Commissioner Osborne—Can you have your other witnesses the next time, ready to put on?

Mr. Wherry—I expected to. I thought if he were ready to go ahead the next time, I would rest on the record as it now is.

Commissioner Osborne—You might not put in any more?

Mr. Wherry—Put on a real estate man that he wants to examine, and I might not put my financial expert on.

I think the record covers it. I think I have made a *prima facie* case on that and it would be cumulative evidence, and in order to get through I would not call that witness, rather than delay the case.

Commissioner Osborne—Why can't you have your people ready for the next hearing?

Mr. Hague—The questionnaire has not been answered yet, and there are any quantity of things we have to check over.

Mr. Wherry—It will be finished Friday.

Mr. Hague—The engineers of this Board are waiting for that to come in, for the benefit of the Commission. We could not prepare in that short time. There is a lot of work to be gone over.

Mr. Wherry—They have had notice of the increase since April last.

Commissioner Osborne—In any event you will close your case on that day?

Mr. Wherry—Yes.

Commissioner Osborne—Then we will give them a short day to go on because you are going to get these rates unless you finish the case.

Mr. Hague—I cannot help it.

Commissioner Osborne—I cannot either.

(Adjourned until Wednesday, November 16th, Kinney Bldg., Newark, N. J., at 10:45 A. M.)

BOARD OF PUBLIC UTILITY COMMISSIONERS.

NEWARK, N. J., Wednesday, November 16, 1921.

Elizabethtown Water Company, Watchung Water Company, Piscataway Water Company and Raritan Township Water Company, in the Matter of the Application for Increased Rates.

Before Commissioner Harry S. Bacharach, Esq.

For the Petitioners appears:

W. M. Wherry, Esq.

For the City of Elizabeth appears:
Joseph T. Hague, Esq.
For Dunellen and Piscataway Township appears:
R. P. F. Von Minden, Esq.

N. S. Hill, Jr., resumes the stand on behalf of the petitioner.

Cross-examination, by Mr. Hague, continued:

Mr. Wherry—May it please the Commissioner, we have prepared the answers to the questionnaire that was submitted by Mr. Herrmann and Colonel Betts and it has been furnished to the Board and to counsel for the other side. We would like to mark it as an exhibit in the case. It seems to me that is the best way to get it on the record. Have you a copy of it?

Commissioner Bacharach—Where is it now?

Mr. Wherry—I suppose Colonel Betts has it.

Witness—I sent three copies over to Mr. Betts, over to the Commission. Mr. Carver has them; I did not bring an extra copy.

Mr. Wherry—We have been furnishing them in triplicate, these exhibits we have prepared. Can we get them from Mr. Carver-

Commissioner Bacharach—Yes.

Mr. Hague—I might ask that admitting this as evidence be withheld for the present because we only received a copy of it yesterday. We have not had a chance to go over it carefully, and there are some of the questions, as I spoke to Mr. Wherry—the answers are not responsive to the questions, and some of the questions we expected would have been answered have not ben answered. There can be no harm in withholding admitting it at present until we have had an opportunity of going over it. I think Mr. Wherry will probably consent.

Mr. Wherry—Those questions he claims are not responsive, he can make his objections to

them. On those questions which he says are not answered, he can point that out too. But we have got to get it in as part of our record in some way.

Mr. Hague—Perfectly willing to have it go in as part of the record after we had a chance to examine it. But those questions were propounded two or three weeks ago, two weeks ago, and we just received a copy of it yesterday, too late to go over it in detail. I think we are entitled to a reasonable time to look it over until the next hearing. There will be no harm in withholding it until that time, to give us a chance to look it over.

Commissioner Bacharach—Have you any objection to that Mr. Wherry?

Mr. Wherry—The only objection is the delay, not knowing where you are at on it. These were questions which Mr. Herrmann prepared and submitted as a sort of deposition to be taken in the case instead of putting the witness on and asking questions.

Commissioner Bacharach—Of course, if you have no objection, we could go right on without it, but if you feel there is any special reason why it should be in at this time, I would like to know.

Mr. Wherry—Well, it seems to me it ought to be put in subject to any objections that he may have, giving him the right to put his objections in. Then he can put his objections on the record, and we will get our record made at this time.

Commissioner Bacharach—What difference, Mr. Hague, would this be, between an exhibit, a financial statement of the company that you had not had an opportunity of examining, and this proposition; where does it differ?

Mr. Hague—The exhibit would go in in the usual course of procedure as part of their direct

case. This is the cross-examination of the witness, entirely different, and instead of having those questions answered by the witness on the stand, to facilitate matters he has answered them in the form of a questionnaire. I think, being that we only got that yesterday, too late to go into the matter, we would be entitled to a reasonable time to examine it and to make any objections we cared to at the time they were offered as part of the record. It will not delay matters; it can do no marm. We will go on with our case as it is now.

Mr. Wherry—I wonder what Mr. Herrmann's idea would be, whether he would rather have it go in now or have it go over.

Commissioner Bacharach—Suppose we withhold any action on it at the present time until after the noon recess. In the meantime I will take it up with Mr. Herrmann and he may be able to come in here before the noon recess and give us his opinion on it.

Mr. Wherry—It is really his cross-examination. I do not mean to preclude Mr. Hague from making objections.

Mr. Hague—I think the proper time to make objections is before it becomes part of the record, rather than afterwards. I am perfectly willing to leave it stand until Mr. Herrmann has had a chance of communicating with the Board on it, and then to renew my motion. I will talk to Mr. Herrmann about it.

Commissioner Bacharach—All right.

Mr. Wherry—Before we resume let me make a correction in the record that you called attention to. Mr. Hill, in the record, it is called to my attention that you stated that the water rights were not valued by you but were valued by the real estate experts. Weren't you speaking of rights of way?

Witness—Rights of way, yes.

Mr. Wherry—I would like to have that correction noted, that it was right of way.

Commissioner Bacharach—If there is no objection to that, it will be entered.

Witness—Mr. Wherry, may I make a statement in regard to the exhibits?

Mr. Wherry—You mean this question there?

Witness—No. Those that were asked for by both Mr. Hague and the Commission. I have handed in everything except two exhibits, one asked for by Mr. Hague at the last hearing, which involved the segregation of the pumping cost at the different stations, and that has been drawn off and that statement will be typewritten and forwarded to you to-day, or the first thing to-morrow morning; and the other statement is a statement of the book costs of the machinery and equipment in the pumping stations. That exhibit has not been filed, but is about prepared and will be sent out in a day or two, as far as we can ascertain it.

Q. (By Mr. Hague.) Mr. Hill, you were asked by Commissioner Treacy, at page 121 of the record, as follows: "What is the record of this company as to return in the past; do you know; have you studied that?" And your answer was, "I can get that data." He said, "I wish you would." You have not furnished that data, have you?

A. Yes, I have given a table in the questionnaire which gives the earnings, operating expenses and return for the last three years.

Q. Do you consider that as earnings in the past, as covering all earnings in the past?

A. Yes. I did not think that the earnings of further back—I don't know quite how far I can go back. If you want me to go back, I will go as far as I can.

Mr. Wherry—I do not ask that the witness shall prepare any more data for the other side. He is volunteering now that he would do more

work for them, and I object to that. We will give they anything within reason, but the past earnings of the company they will have to get some other way.

Mr. Hague—This is not a question that I submitted. It is a question that the Commission asked.

Mr. Wherry—If the Commissioner wants it, that is a different proposition.

Commissioner Bacharach—Where is that question?

Mr. Hague—On page 121.

Mr. Wherry—We made compilations of every sort for the Commission, everything they asked for, and more for the other side than is usual in these cases. There has got to be some limit to it.

Mr. Hague—I won't press that question furthere at this time. I will take it up later when the question of this exhibit comes up.

Commissioner Bacharach—Where is that question, Mr. Hague? On 121? Did Judge Treacy ask that, did you say? Have you got that information?

Witness—I went back three years, sir.

Mr. Hague—Our contention is that is not what was required; that is required the past earnings for a considerably longer period.

Commissioner Bacharach—Mr. Wherry, are you taking the witness or Mr. Hague?

Q. (By Mr. Hague.) At the last hearing, Mr. Hill, you testified that in your appraisal you set forth that the Raritan Company, the Watchung Company, should receive $160 per million gallons in your opinion for water, did you not?

A. I think I said in the case of the Piscataway Company that the cost of water would be about $160.

Q. And the Watchung, too, did you not?

A. I had not figured that up. I do not know just how that works out.

Q. You said "Yes" in your testimony of last week?

A. Not in regard to the Watchung, but in regard to the Piscataway, I think.

Q. Never mind that for the present. Do we understand, Mr. Hill, that exhibit five in which you give tables and other matter relating to income and operating expenses was made up by you personally or by your assistants?

A. Table number five?

Q. Exhibit five.

A. Table five. I have testified that all of the data submitted here has been made up by assistants in my office under my direction and supervision. I have made none of the tables personally.

Q. Is the written matter your work?

A. Yes.

Q. And you made the compilations and directed the general methods to be followed, did you not?

A. Yes.

Q. You were responsible for the written matter and the general compilations?

A. I feel that I am responsible for the whole report.

Q. Now, in treating the four different companies as to the valuation, income and expenses, have you used the same general methods in all cases?

A. Substantially, yes.

Q. Have you followed the same principles in placing the valuation upon the property, in depreciating the property, and in fixing the revenues and expenses required?

A. Yes.

Q. Will you turn to your exhibit five in which you determine the fair cost of supplying water by the Watchung Company to the Elizabethtown Company, page 39 of exhibit five?

A. Yes.

Q. You state, do you not, on page 39 of exhibit five, that the fair cost of collecting, pumping and delivering water to the Bound Brook main is $160 per million gallons?

A. Yes.

Q. Is it your opinion that this is the fair value to charge the Elizabethtown Company for this water?

A. Yes.

Q. You likewise state, do you not, on page 38, that the present rates for domestic service, both metered, unmetered and miscellaneous, should remain as they are?

A. Yes.

Q. What is the average amount received by the Watchung Company from its metered service per million gallons?

A. From its metered service in 1920 the company received $12,460.

Q. How much water did they serve for that purpose?

Commissioner Bacharach—Can you refresh the witness's memory?

Q. I show you the annual report filed with the Utility Board for the year December 31st, 1920, and ask if that will assist you in giving the answer?

A. I thought I had this data right here. I will have to find the page. I thought I had it divided right here. According to the statement filed with the Public Utility Commission, there was 78,000,000—that is in thousand gallons.

Q. Isn't it shown there what it costs per million gallons?

A. The net revenue per million gallons is figured out in this report as $159.

Q. Now, what is it for the unmetered consumers?

A. They do not give the cost per million. They have not that figured out here.

Q. Can't you get it?

A. I could get it by dividing, yes.

Q. Isn't it a very little over one hundred dollars?

A. About one hundred dollars, yes.

Q. What is the average amount received, as reported by this company, for the water furnished to unmetered consumers—just strike that out.

A. $20,826.96.

Q. Then it is your opinion, after making these elaborate calculations which you show in your report exhibit five, that it is cheaper to serve the small consumers with water than it is to serve the excess water to the Elizabethtown Water Company, isn't it?

A. No. What I have done is to make a fair allocation of the property between the local consumers and the Elizabethtown Water Company.

Q. You advocate selling it to private consumers at the same rate, which would be one hundred dollars, and advocate selling it to the Elizabethtown Water Company in large quantity for $160, don't you?

A. Well, I presume it works out to that, that they should get the same revenue from their local water service as they do now, and charge the Elizabethtown Water Company $160 a million.

Q. In addition to that $160 as the price to the Elizabethtown Company, per million gallons, there would be added the cost of transmission, and the distribution, transmission to Elizabeth and distribution to the City of Elizabeth, would there not?

A. Yes, sir.

Q. When was the thirty-six-inch main from Bound Brook to Linden constructed?

A. About 1912; 1911, 1912 and 1913, I think, was the period during which that main was being built.

Q. How did the company do this work, by contract or by force account?

A. The company did the work by contract.

Q. What is the total amount charged up against the laying of this pipe line? What is the total amount charged up against the laying of this pipe line on the books of the various companies?

A. Well, I would have to look that up.

Q. Could you look it up now?

A. No, I would have to get it from the office.

Q. Will you furnish that?

A. Yes.

Mr. Wherry—What was that, Mr. Hague?

Mr. Hague—The total amount charged up against the laying of this pipe line.

Mr. Wherry—Which pipe line?

Mr. Hague—The thirty-six-inch main from Bound Brook to Linden, charged up on the books of the various companies, it is shown on the first page of *Exhibit P-2*.

Q. You will furnish the total amount, the total amount of cost and the total amount of length laid?

A. Yes.

Q. In your exhibit four, the Piscataway Water Company, you show the balance sheet of 1920, in which you give the cost of the work installed since 1913, at $34,587. Do you know what this work was?

A. What is that figure, Mr. Hague?

Q. $34,587.

A. Isn't it $134,000?

Q. Yes, I beg your pardon. Will you make that correction in the record, $134,567.

Commissioner Bacharach—What page are you reading from when you refer to the exhibit?

Witness—That is table No. 18, preceding page 22, *Exhibit P-4*.

Q. Do you know what this work was?

A. That was the cost of the main chiefly.

Q. How much main?

A. I don't know precisely how much.

Q. Will that be covered in the other question I have asked you to furnish, in this previous question where you said you would furnish the information?

A. I thought you wanted me to get you the length and the cost of the Raritan main.

Q. Yes.

A. If that is what you want, I will do it.

Q. I want also the cost of this main to the Piscataway Company.

A. This is part of that main.

Q. I want you to give the cost of the part that is not included in the first question. Will you do that, add that to it?

A. Do you want me to divide that cost between the Elizabethtown, the Piscataway and the Raritan Township Water Company?

Q. I do not care about that, but I want to show what the total cost of that main is, regardless as to whom it is charged to?

A. Yes.

Q. And how much is charged to each company?

A. That is what I say, you want it divided by companies?

Q. Yes.

A. All right.

Q. I understood you to say that was all done by contract, wasn't it?

A. Yes.

Q. Does the Elizabethtown Water Company maintain a force for the purpose of constructing its properties, making extensions and doing other work?

A. Well, I cannot tell you how much of a force they maintain.

Q. Do you know whether they maintain any?

A. Yes, they have some. How large it is, I don't know.

Q. Was the work done in 1919 and 1920 by the Elizabethtown Water Company on the force account?

A. As far as the mains laid in 1919 and 1920, I do not know whether they were laid by the company's employees or by contract. Ursino Lake filter plant, which is part of the expense shown, was constructed by contract.

Q. But the balance of the work, do you know whether that was done by—

A. No, sir; I cannot tell you. I would have to look it up.

Q. Do you know what the cost of overheads was on this work?

A. On the Ursino Lake filter plant?

Q. For 1919 and 1920.

A. I would have to segregate that.

Q. You have not done so?

A. No, I have not done so.

Q. Will you do it and furnish that information?

A. If I can, I will. I do not know whether I can. I will try to.

Q. All of that was charged as construction on the books, was it not?

A. Yes, been charged to construction on the books.

Q. All of the overheads?

A. I don't know about that.

Q. By examination of the books you will be able to ascertain, won't you?

A. I might and I might not.

Q. If they were not charged as construction, how would they be charged on the books?

A. Well, it has been a common practice, among a great many water companies, not to segregate their overhead charges, but to carry them in the operating accounts.

Q. Has it been done in this case?

A. I would have to look up in each specific instance. I do not think there has been any definite rule followed.

Q. You have mentioned New Orleans seven times in your testimony, in connection with the difficulty of building up a business. Do you know that the people of New Orleans, prior to the installation of the water works were not accustomed to using water under pressure, that they had installed cisterns and cesspools and were accustomed to using them?

A. I know they had cisterns and cesspools installed and were using them, yes.

Q. And that there is a large negro population and they had much difficulty in inducing these people to use the water?

A. I know they have a large negro population. What difficulty they had in inducing them to use the water, I do not know.

Q. It is not your opinion, is it, that taking the present population of Elizabeth, that they would be content with

any other supply of water except a pressure water system?

A. Oh, no; I do not mean to contend that at all.

Q. Do you not know that if there were no such system in Elizabeth, that the city would not exist and could not compete with other cities in the vicinity of New York?

A. I think that is a self-obvious proposition.

Q. In your detailed appraisal, exhibit three, you give several columns, one of which is for the original cost. Has it not been your custom, in making appraisals, for other water companies, to put in that column the actual cost of the structure when you could ascertain the same?

A. Yes.

Mr. Wherry—May it please the Commissioner, this has been gone over and over again at previous hearings.

Mr. Hague—I beg your pardon.

Mr. Wherry—It seems to me there must be a limit to the cross-examination, and unless there is something new in it, I am going to raise objection to it. What is the next question, Mr. Hague?

Mr. Hague—I will come to it after a while. These exhibits have been put in as practically the whole case of the water company. It is put in and we have to go through it, and as you have seen, with two or three questions here, there has been the same result all the way through; Mr. Hill is unable to answer questions and then we have to get some sort of a further statement from him. Cross-examination brings that out. Every one of these questions, more or less, although it might possibly in some instances overlap, has brought out some further data which his exhibit did not contain and under the general rules of evidence, we are entitled to a greater latitude in cross-examination, I think.

Mr. Wherry—The fact that Mr. Hill was not able to ascertain the cost from the books of the

company, because of imperfect bookkeeping methods, has been gone over and over again. Unless there is some new phase of it, it seems to me the cross-examination ought to be completed on that matter.

Q. Mr. Hill, isn't it a fact that a lot of those costs can be found on the books of the company?

A. There are some costs that can be found on the book of the company.

Q. They have not been put in this appraisal by you, have they?

A. In a great many cases they have been put in.

Q. And in a great many more more they have not?

A. No, I would not say that.

Q. In what cases did you put them in?

A. Well, I furnished the Commission with the actual cost of driving the wells at the pumping stations as far as I could get them.

Q. In response to the questions propounded on cross-examination?

A. Yes. I furnished the Commission with the actual cost of the Ursino Lake filter plant, of the Rahway booster station.

Q. In the original exhibits I am speaking of?

A. Yes, in every case, in each company I have given the gross total cost of the tangible property as shown on the company's books, not in detail, but I have given the gross total; in the Elizabethtown Company I have set it up on the balance sheet as $2,200,000, in the Piscataway Company as $414,000.

Q. That is the gross; it does not go into it in detail so anyone could pick out any item on it?

A. No. I have not picked out every piece of pipe and every piece of machinery and set opposite it the actual cost. But I have furnished the gross cost as per the books and supplied any supplemental information I have been requested to supply with regard to particular costs, as far as I could secure them.

Q. The original costs which has been furnished seems to be from one-half to one-third of the estimated cost of reproduction, which you have allowed, does it not?

A. One-half to how much?

Q. To one-third?

A. Well, I do not think it goes as far as that.

Q. For what did you show original cost, except for a few wells of the Piscataway Water Company pumping station?

A. I have furnished the cost of the wells at the pumping station. I stated this morning, at the beginning of my testimony, that I had the statement about prepared

Q. Will you look at it on the map?

chinery and equipment at the pumping station. But there is set up on the balance sheet of the Elizabethtown Water Company amounts which are carried on the books as chargeable to both the Springfield and Hummocks pumping station, in gross.

Q. Did you examine the real estate of this company to see whether or not it was useful for water works purposes?

A. Yes.

Q. Of what use are parcels No. 36 to 42?

A. What page is that

Mr. Wherry—What exhibit?

Mr. Hague—*Exhibit two.*

Commissioner Bacharach—Will you give me the page, Mr. Hague?

Mr. Hague—They are not numbered. You can find it by looking at the maps as we go along, the numbers of the tracts are numbered consecutively.

Witness—That parcel is being used in part as a storage yard at the present time.

Q. Are the parcels Nos. 36 to 42 used or useful?

A. 36 to 42?

Q. All of them?

A. I think they are using that property for storage purposes. They were when I was going over the plant.

Q. What purpose is parcel 42 used for; tell me?

A. I cannot tell you what they are doing with it today.

Q. Are you familiar with it?

A. I have not been there in the last few months.

Q. Will you look at it on the map?

A. Yes.

Q. It is of no use, is it?

A. That property was acquired for the purpose—

Q. Are they storing pipe there? What was the purpose?

A. That property was acquired originally, I think, as a reservoir site. I think this is the property in question.

Q. Do you know?

A. That is my recollection. It has since been used as a storage yard.

Q. Is parcel No. 42 used as a storage yard?

A. Not the part under water, no.

Q. Is any part of these parcels 36 to 42 used for anything else?

A. They may rent a portion of it.

Q. Did you go over it yourself personally?

A. Yes, I have been on the property personally.

Q. Is any part of it used by the telephone company or telegraph company?

A. I do not know whether they are using it now or not.

Q. What proportion of it was used at the time you saw it, for the storing of pipe—

A. Well, when I saw it—

Q. —or other water works purposes?

A. —they were storing materials there at different parts of the property. I do not mean to say the entire property was covered with materials or utilized, but they were utilizing the lot for storage purposes.

Q. What proportion of it was used?

A. Well, I do not know exactly how to answer that question. Do you mean what proportion of the area was covered?

Q. Half of it, or one-third of it, or one-tenth of it?

A. I should say a small proportion of the total area was covered.

Q. A small proportion was covered?

A. Yes.

Q. Parcel 42, Mr. Hill, is there any part of that you know of that is used and useful in connection with the water company?

A. Not if is under water, no.

Q. How is it shown on the map there?

A. Shown on the map as under water.

Q. It is part of the bed of the Elizabeth River, isn't it?

A. Yes, probably acquired in connection with the acquisition of other property, and is always included in these appraisals under those conditions.

Q. Turn to the next page, parcels 43, 56, 57, 58; what is parcel 58?

A. That is substantially a small right of way..

Q. What is parcel 57?

A. The same thing.

Q. Are both of those rights of way used and useful in connection, leading to forty-three?

A. They were purchased in connection with the construction of that reservoir, one of the expenses of the building of that reservoir.

Q. Are they necessary?

A. I don't know that to-day it would be absolutely necessary to have the right of way. They were probably purchased to enable the company to construct that reservoir.

Q. They have a frontage on Chilton Street, haven't they?

A. Yes.

Q. Do you consider that those two rights of way are used and useful in connection with that?

A. I think it should be included in the appraisal, yes.

Q. What is 58?

A. Fifty-eight is really the entrance to the property, which I presume is much used, where the pipes go in

and out, and I think every time I have been to the reservoir, I have been through that way from West Grand Street.

Q. What is that, another right of way to it?

A. Well, I don't know whether you would call it a right of way. It is a small parcel; it is part of that reservoir property.

Q. It is not used for reservoir purposes, is it?

A. Well, it is useful, in connection with the reservoir. It was purchased in connection with the construction of that reservoir.

Q. You consider that besides the frontage on Chilton Street, that that parcel 58, as well as the parcel, rights of way, 56 and 57, are necessary as part of that water works property?

A. No. I did not say they were absolutely necessary. I said, what they were were parcels that were purchased in good faith in conjunction with the construction of that resrvoir, and as such should be included in the appraisal of the property.

Q. At the present time, would you consider them used and useful?

A. Well, I would want to go into that, I would want to look that up before I answered that definitely. I would like to speak with Mr. Townley, the operating man, to see just what he is doing there now.

Q. They are valued as a cost considerably in excess of the actual cost?

A. Well, I don't know what the actual costs were on that property.

Commissioner Bacharach—Is this valuation in evidence on this property?

Mr. Wherry—The real estate valuation?

Mr. Hague—I do not think it has been offered in evidence as yet.

Commissioner Bacharach—In these particular properties?

Mr. Wherry—It has been included, but we are going to call the real estate man in.

Commissioner Bacharach—But not in detail, it has not been included?

Mr. Wherry—No.

Mr. Hague—Has it been offered?

Mr. Wherry—Yes, it is a part of the record.

Mr. Hague—It has been offered in evidence, has it? It is in the red book?

Mr. Wherry—Yes.

Commissioner Bacharach—I am correct then in my assumption that there isn't very much involved in these lots anyhow?

Witness—No.

Mr. Hague—What is that?

Commissioner Bacharach—Am I correct in the assumption that the valuation of parcel 56 is four hundred dollars?

Mr. Wherry—Yes, that is correct.

Commissioner Bacharach—Fifty-seven at $600, fifty-eight at $1,600.

Mr. Wherry—Yes, and 42 is $1,400.

Commissioner Bacharach—I just wanted to get an idea of the prices.

Mr. Wherry—And 41 is $1,500, a very large sum involved. That is called nickle-picking; it takes lots of time, but it doesn't get very far.

Commissioner Bacharach—I was wondering how serious an effect it would have.

Mr. Hague—Some of them are put in to camouflage. You happen to have a piece here that is all under water, $1,440, and not a bit of it used or useful, No. 42.

Q. Mr. Hill, will you turn to parcels one, two and three, right at the beginning of the book? Have you the page?

A. The first page?

Q. No, the next page, parcels one, two and three. That property is directly across the street from parcels thirty-six to forty-two, is it not?

A. Yes.

Q. What is that property used for?

A. Well, it is used as a site for pumping station, meter repair and store shop, and other purposes.

Q. Practically half of parcel number three is included in the bed of the Elizabethtown Creek or river?

A. Yes. I do not recall whether that property under the river, the bed of the stream was acquired as a necessity in connection with the purchase of the other property. It may have been purchased to provide a right of way for the mains from Irvington Avenue reservoir down to the Elizabethtown pumping station, the main passes right over that property.

Q. Will you turn to parcels six to ten, and will you tell me what those parcels are used for?

A. Those parcels are the real estate surrounding the Hummocks pumping station, and they really form the water reservoir around the Hummocks pumping station.

Q. Will you turn to parcels 44, 45, showing the Irvington Avenue reservoir?

A. Yes.

Q. The Irvington Avenue reservoir property is bounded by Parker Road, Irvington Avenue, Orchard Street and the Elizabeth River?

A. Yes.

Q. Why is the right of way, No. 51, taken as a distinct property from the Irvington Avenue reservoir, when it is all one tract?

A. Those parcels are all recorded, Mr. Hague, as separate parcels.

Q. Wasn't it the idea that when the Irvington Avenue reservoir site was acquired, it was acquired to the banks of the Elizabeth River and parcel 51 is included within the same?

A. I cannot tell you that. These are all reported as separate parcels in the real estate records of Union County. You will find references given to all of the parcels. No. 44 is recorded in book 141, page 506, that is the main parcel. Parcel No. 51 is recorded in book 487, page 125. They are listed as separate parcels.

Q. Turn to the third page from the last, diagram No. 27, which takes in parcels 74 and 75. Of what use are parcels 70 to 75?

A. 70 to 75?

Q. Yes.

A. They are land acquired in connection with the construction of the Piscataway pumping station, and the development of their well supply at the Piscataway pumping station.

Q. Is that in use for that purpose?

A. Yes.

Q. Of what use is parcel 76, the next page?

A. Parcel 76 is the land acquired for the site of the storage reservoir of the Watchung Water Company.

Q. Is it now used?

A. Yes, there is a reservoir on the ground now.

Q. Turn to diagram 22. That is marked real estate and rights of way in the name of the Somerville Water Company?

A. Yes.

Q. At and below the junction of the Raritan and Millstone River. Is that owned by the Somerville Water Company?

A. It stands in the name of the Somerville Water Company.

Q. Why was it included in this appraisal?

A. My recollection is that that property was paid for by the Elizabethtown Water Company, purchased and paid for in conjunction with the development of the Raritan and Millstone supply.

(Commissioner Osborne now sitting with Board.)

Q. Was it paid for by the Elizabethtown Company?

A. Yes, that is my recollection.

Q. And given to the Somerville?

A. And stands in the name of the Somerville Water Company.

Q. Why was it taken in the name of the Somerville Water Company?

A. You will have to ask those—

Q. If it is owned by the Somerville Water Company, why is it included in this appraisal?

A. I told you that my recollection is that the property was purchased and paid for by the Elizabethtown Water Company and stands in the name of the Somerville Water Company, purchased by the Elizabethtown Water Company as part of the Raritan-Millstone development.

Q. Why was property in the name of another corporation included in the appraisal? How did you come to include it, Mr. Hill?

A. I came to include it for that reason, that it was purchased and paid for by the Elizabethtown Water Company. That is my recollection.

Q. (By Commissioner Osborne.) In other words, the books show what the real fact was?

A. I haven't the books before me, sir.

Q. They did at that time?

A. That is my recollection, yes.

Q. (By Mr. Hague.) Do the books show that?

A. That is my recollection.

Q. (By Commissioner Osborne.) That is the only source of information you have, isn't it?

A. Yes.

Q. (By Mr. Hague.) When was that property acquired?

Commissioner Osborne—Can we shorten and clarify that situation by an interruption here? What is the fact?

Mr. Wherry—The fact about that is that the Somerville Water Company, the Plainfield-Union Water Company, and the Elizabethtown Water Company, contemplated making a joint development up there through that country which is perfectly well-known through all these municipalities, and this particular real estate and rights of way were bought and paid for by the Elizabethtown Water Company and title was put in the name of the Somerville Company in the process

of acquiring the property, and never has been transferred.

Commissioner Osborne—All the titles are in the Somerville Company?

Mr. Wherry—I am not sure about all of them; but practically all of them.

Commissioner Osborne—They are in the Somerville Company then in trust for the purpose for which they were acquired.

Mr. Wherry—Yes, exactly.

Commissioner Osborne—Is there anything to indicate that, any evidence, so that with the passage of time the Somerville Company will not assume ownership?

Mr. Wherry—I do not know what the trust deeds are.

Commissioner Osborne—There are trust deeds, are there?

Mr. Wherry—I think there is something of that sort. It was not under my direction. Mr. Bergen had charge of that.

Commissioner Osborne—That then makes that clear, doesn't it?

Mr. Hague—It makes it clear so far as the way that was done.

Commissioner Osborne—What is it you want to know in addition to that?

Mr. Hague—I want to know whether this property is used or useful in connection with the property before this Board at the present time, for water works purposes.

Commissioner Osborne—This property that is in the Somerville Company is used and useful in which case?

Mr. Hague—In the present case, the Elizabethtown and allied companies.

Witness—That property is not used at the present time, but was purchased for the purpose

of developing an additional and larger source of water supply.

Q. What did it cost?

Commissioner Osborne—Would you contend they should not acquire this property for the purpose of developing a larger water supply?

Mr. Hague—Your Honor, I do not contend they should not. In fact, we would be only too glad to have them do it.

Commissioner Osborne—You think that is a wise provision for the company to make, to purchase property ahead.

Mr. Hague—Very wise, if they are going to build it. But if they are not going to build it, we should not be charged with the maintenance of it, if they are going to just buy it and hold it indefinitely, and charge us in the rate for it, when they are getting water from another supply.

Q. (By Commissioner Osborne.) How long have they had it?

A. I don't know whether I can give you the exact date of purchase.

Commissioner Wherry—Do you know, Mr. Wherry?

Mr. Wherry—Mr. Kean may know.

Witness—I should say that possibly, from my knowledge of the occurrences which brought about the purchase of this property, that it has been held for about eight or ten years.

Q. (By Mr. Hague.) How much money is loaned to the Somerville Water Company by the Elizabethtown Company?

A. According to their balance sheet of December 31, 1918, which is the last I have with me, there is listed among the assets, loans to the Somerville Water Company, $274,713.91, $46,083 and $67,200.

Q. Is that still owing?

A. What?

Q. Is that still owing?

A. I couldn't tell you that. I am not an operating official of this company or an owner. I do not stay at the office of the Elizabethtown Water Company.

Mr. Wherry—That will do. You save said you do not know.

Q. Was that money that was loaned for acquiring this property, this land?

A. I do not know the precise purposes for which these moneys were loaned.

Q. Did you make estimates of the cost of rights of way?

A. No.

Q. Do you know what the company paid for acquiring rights of way?

A. No, I haven't those figures with me.

Q. Have you studied the pressure maintained by this company in the City of Elizabeth?

A. Yes.

Q. What pressure is maintained on the mains in the streets in the City of Elizabeth?

A. That pressure varies, but I think forty pounds—the pressure varies between, from about eighteen or twenty to thirty-five or forty pounds over the system.

Q. That is on the mains?

A. That is on the mains.

Q. And that is ordinary conditions?

A. Yes.

Q. If there is any considerable consumption of water, it goes much below that, doesn't it?

A. Well, I do not think that in general the ordinary daily domestic and commercial consumption would affect the pressure very materially.

Q. Is it not a fact that it is impossible to get enough pressure in many places in Elizabeth to get water on the upper stories of the houses?

A. I am not familiar with all the local conditions, but I do know the pressures are not as high as they should be to give the best of service.

Q. (By Commissioner Osborne.) What is the reason for that, lack of water or lack of pumping facilities?

A. Well, I think it is a combination of causes. They are getting the water from a number of different sources and at different pressures, and then there is some limitation placed on the pressure which they can carry at the present time, due to the cement-lined mains which they have in the system.

Q. It would burst the mains if they gave too much?

A. Yes.

Q. (By Mr. Hague.) If there was much pressure put on the mains would not carry it; if they put considerable pressure on these mains the mains would give way?

A. On the cement-lined mains, yes.

Q. Under present conditions the company could not take on any additional manufacturing consumers, could it?

A. Well, I am not prepared to say that.

Q. If they did the other service would suffer more, would it not?

A. Well, I am not prepared to make a general statement in that regard. I think in some locations they could take on additional manufacturing without affecting the service in other parts of the town.

Q. It is nearly impossible for the City of Elizabeth to grow rapidly with the present water supply, isn't it, Mr. Hill?

A. Well, I would like to answer that by saying that I think the city water supply needs reinforcement and strengthening. I would not say it was impossible for the city to grow with the present water supply.

Q. It has needed that for a great number of years, hasn't it?

A. I don't know how long it has needed it.

Q. On page twenty-nine, *Exhibit four,* you state that the Raritan Township Water Company carried on its books a value of $165,725.40?

A. Yes.

Q. And that this check had been two per cent. of your gross cost of reproduction based on your pre-war prices of the property installed prior to 1914—

A. Yes.

Q. —plus actual cost of additions from 1914 to 1918?

A. Yes.

Q. Do you know how much of this book value of $165,725.40 was based on cost, how much was overhead and how much was for other charges which should not be included in either base cost or for overhead during construction?

A. No, I cannot give you those figures.

Q. Did you try to find out?

A. I will find out as much as I can for you.

Q. Have you tried to find out now?

A. Yes, I have.

Q. Do you think you will be able to furnish that?

A. I am going to try to.

Q. The 1913 report of the company to this Commission will probably furnish you with some of the information?

A. Yes, sir; I have seen that statement.

Q. Will you furnish that later, Mr. Hill?

A. Yes.

Q. Have you looked up the matter of the Piscataway Company?

A. I am doing them at the same time. I have not finished that yet.

Q. In your operating expenses as shown on *Exhibit five*, table 52, you give a charge of $182,382 for water purchased in 1920 by the Elizabethtown Water Company?

A. Yes.

Q. Do you mean that the Elizabethtown Water Company actually paid this much money in 1920 for water which it purchased?

A. Yes.

Q. Are you aware that the report of the company shows the amount of money paid for water purchased as a litle over $155,000?

A. I do not know what figure the company's statement to the Board has on that.

Q. How did you arrive at those figures that you show?

A. Those figures were arrived at by making an audit of the company's books and obtaining all of the charges for water purchased.

Commissioner Osborne—The next table shows the details of the charges?

Witness—Yes.

Mr. Wherry—It shows also what the difference is. The company's report does not contain interest on advances to the Middlesex, the Piscataway and the Raritan Township Company. He has treated those as cost of water purchased?

Witness—Table 53.

Q. Mr. Hill, I show you the report to the Commission, December 31, 1920, water purchased $155,049.14, and ask you how you reconcile your figures with those?

A. In the first place, I do not know that my figures for the total amount paid to outside companies is the same as the amount reported by the company, because the audits which have been made do not in every particular correspond with the reports filed. But the chief difference is due to including the interest on the advances to the Piscataway, Raritan Township and Middlesex Water Companies, which are not included in the company's statement. That is shown on table 53.

Q. Will you take *Exhibit four* and turn to page twenty-eight?

A. Page twenty-eight?

Q. Yes, page twenty-eight. What is the total amount of accrued depreciation which you have deducted from the plant of the Raritan Township Water Company, as of January 1st, 1919?

A. $3,588.

Q. When was this plant first constructed?

A. It was built, as I told you, about 1912 or 1913.

Q. Will you turn to table twenty-three-A of the same exhibit?

A. 23-A?

Q. Yes, *Exhibit four.* How much does the annual depreciation which you have asked for this company amount to?

A. $3,175 a year.

Q. Do you think in establishing rates a company should be allowed an annual allowance for depreciation for each and every year substantially equal to the entire depreciation which has accrued on this property since 1913.

A. I think that would be perfectly proper under certain conditions. But I want to look that up just a moment.

Q. Under these conditions?

A. I want to look it up first.

Q. That is what you have asked for, is it not?

A. I don't know yet; I want to see.

Q. Don't your figures show it?

A. That is correct.

Q. Now, will you turn to page twenty of the same exhibit. What is the total depreciation which you have estimated as accrued on the Piscataway Water Company up to 1919?

A. $16,230.

Q. Will you turn to your exhibit which shows the annual depreciation on the same property?

A. Yes.

Q. What is the annual depreciation that you have asked for?

Mr. Wherry—I object to that; that he has asked for.

Mr. Hague—That you set forth in the appraisal in the exhibit.

Mr. Wherry—All right; that he has estimated. What page is it?

Mr. Hague—Page seventeen-D, table 17-D.

Commissioner Osborne—Table 17-D you mean?

Mr. Hague—Preceding page twenty-five.

A. $11,200 in round figures.

Q. The other was $16,230, wasn't it?

A. Yes.

Q. Then it is your opinion that this company should in two years be allowed an annual depreciation much in excess of the depreciation that has accrued on this property up to the year 1919?

A. Yes.

Mr. Hague—I think that is all at this time, except the questions propounded by Mr. Herrmann have been presented by Mr. Wherry this morning, and we received a copy of it yesterday, but we have not had an opportunity of going over it.

Commissioner Osborne—The answers have been submitted, have they?

Mr. Wherry—We sent three copies of that to the Commission and one copy to Mr. Hague. There are a good many tables in there, and there is one table that is not yet completed; it is now being typewritten.

Commissioner Osborne—These are responses to Mr. Herrmann's questions?

Mr. Wherry—I asked to have them marked as an exhibit and Mr. Hague objected on the ground that there were some questions that he did not think were responsive, and others that he thought were not answered at all.

Commissioner Osborne—Do you want to look at that now? You have not had a chance to look.

Mr. Hague—I asked to have it withheld until the next hearing, so that we would have an opportunity of going over it. Commissioner Bacharach said that he would hold it until after Mr. Herrmann had heard of the request, and he heard how he felt about it. We feel that no harm can come by our having an opportunity to go

over it. Some questions we feel are not responsive, and we might ask to have them modified or stricken out.

Commissioner Osborne—I do not suppose technically you would have any right to object to a question asked by Mr. Herrmann, because it was not responsive.

Mr. Hague—There were some questions propounded by us.

Commissioner Osborne—Questions you propounded and which were not answered responsively, of course you would have control of that?

Mr. Wherry—I did not know they had submitted any questions. I thought they were all Mr. Herrmann's.

Mr. Hague—I understood from Mr. Herrmann that there were some of our questions in here and some he answered.

Commissioner Osborne—You are through with this cross-examination this morning?

Mr. Hague—Outside of that.

Mr. Wherry—It has not been marked.

Commissioner Osborne—Is this the original?

Mr. Wherry—You have three copies of it. I would rather have one of yours marked than mine. That is, my copy.

Mr. Hague—Is it the idea to have that marked?

Commissioner Osborne—Have you the original for the record?

Mr. Wherry—Yes, there are three copies Mr. Carver has.

Commissioner Osborne—Let us have one original for the record.

Mr. Hague—Is that to be admitted at this time?

Commissioner Osborne—It is to be offered at this time and admitted. It must be admitted in evidence because that was the agreement under

which it was given, subject to any objection, reserving to you and Mr. Herrmann any objection as to any detail.

Mr. Hague—I have in mind that probably Mr. Herrmann should be given an opportunity of going over it. I do not think he has. We were interested in a number of his questions and wish to point out to him certain—

Commissioner Osborne—You will both have an opportunity to do that.

(Questionnaire and answers of Mr. Hill received and marked *ExhibitP-7.*)

Commissioner Osborne—Anything else today?

Mr. Wherry—I have some redirect from Mr. Hill and I also have a real estate man. I should think we might put the real estate man on and reserve my redirect until they completed Mr. Hill's testimony. I do not think I will gain anything.

Commissioner Osborne—No. You will only be putting him on and off. You better complete Mr. Hill's examination before you finish with him.

Mr. Hague—The information that Mr. Hill was to furnish will be furnished to us, so we will have an opportunity of going over it before he is produced for redirect?

Mr. Wherry—There is one more table and you asked for an additional table this morning.

Mr. Hague—There are two or three tables.

Mr. Wherry—Asked for this morning? What was the other one, Mr. Hague?

Mr. Hague—One was the Piscataway, the other was the Raritan and Watchung.

Mr. Wherry—What?

Mr. Hague—The cost of the pipe line and the length of it.

William H. Ryan, sworn on behalf of petitioner.

Mr. Hague—I admit Mr. Ryan's qualifications.

Commissioner Osborne—You know the gentleman?

Mr. Hague—I have known the gentleman for years.

Mr. Wherry—Mr. Ryan is a real estate expert. I call Mr. Ryan as a real estate expert. He made the valuations of the real estate, exclusive of any buildings thereon, in the City of Elizabeth, Union Township, Springfield Township and Millburn Township.

Commissioner Osborne—Mr. Hague admits his qualifications.

Mr. Wherry—Mr. Hague admits his qualifications. I have furnished to Mr. Hague copies of the real estate valuations, each parcel is numbered, and the amount of acres, and the value put upon it by this witness.

Commissioner Osborne—By this witness?

Mr. Wherry—By each of the real estate witnesses. Those details are a part of the exhibit which is already in evidence. Mr. Hague wanted to cross-examine the witness in regard to some of them, and it seems to me the quickest way is to just let Mr. Hague pick out those numbers he wants to examine about, and ask him about them.

Commissioner Osborne—The substance of what the witness would testify to is already in evidence in another form?

Mr. Wherry—Yes; his appraisal was used by Mr. Hill as the real estate appraisal?

Commissioner Osborne—Very well; that will save a great deal of time undoubtedly.

Mr. Wherry—Don't you think so, Mr. Hague?

Mr. Hague—Yes.

Cross-examination, by Mr. Hague.

Q. Are these values that you have placed upon it at the present time?

A. No. At the time they were made, about a year and four months ago, I think it is.

Q. A year and four months ago?

A. Yes.

Q. They are the values as they appeared to you at that time?

A. At that time.

Q. Has there been any material change in the value of any of them since that time?

A. I would not think so, no material change, no.

Q. Was there any change in the value of them for two or three years prior to the time you made this appraisal?

A. Not much. There might have been some, but not much.

Q. Turn to parcels one, two and three.

A. I have a copy of it here, yes.

Q. You appraised one at $1,200?

A. Yes.

Q. That fronts on Crane Street?

A. It does.

Q. How did you arrive at that?

A. I arrived at that by the price per frontage, foot frontage on Crane Street, thirty dollars a foot, it is about forty foot frontage.

Q. Parcel No. 2 you valued at $4,500?

A. Yes, that fronts on Westfield Avenue.

Q. Look at it.

A. According to my map.

Q. Look at your map.

A. I do; I have it here.

Q. Does parcel No. 2 front on Westfield Avenue on your map?

A. Yes.

Q. Can I look at your map for a minute?

Mr. Wherry—It is a mistake on your diagram.

Commissioner Osborne—What do you refer to as parcel number two; the piece embraced in yellow?

Mr. Hague—Yes.

Commissioner Osborne—Is yours colored?

Witness—No; mine is just pencil. I took it all parcel number two.

Commissioner Osborne—He considers the whole piece.

Q. Then the map is wrong, is it?

A. So far as number two is concerned. I took number two as extending to Westfield Avenue.

Q. Parcel number two is you valuation on parcel number two and parcel number three; all of parcel three except that portion of it which is embraced within the bed of the river?

A. No. Parcel number two is on the westerly side of the river.

Q. You did not get my question.

A. I beg your pardon.

Q. I say, parcel number two as you valued it includes parcel two as shown on your map and all of parcel three except that portion of it which is included in the bed of the Elizabeth River.

A. No. I have a separate valuation on number three, as I have it here.

Commissioner Osborne—Just show Mr. Hague your map.

Q. You did not get my question. Parcel number three as shown here includes this property and the bed of the river?

A. I did not take it that way.

Commissioner Osborne—Tell us what you did do.

A. I took parcel No. 2, I took all on the westerly side of the river.

Commissioner Osborne—In other words you took parcel number two and so much of parcel number three as is not in the river?

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Witness—Is not on the easterly side of the river. I took number three as all on the easterly side of the river.

Mr. Hague—There isn't any, Mr. Ryan.

Witness—I beg your pardon.

Commissioner Osborne—You mean the westerly side; you took everything in number three that is on the westerly side of the river.

Witness—Number three, as I took it, was that part on the easterly side of the river.

Commissioner Osborne—Show me here; put your finger on what you did.

Witness—This is number two and this is number two (indicating). I took these two together at $4,500. This is number three on this side of the river.

Commissioner Osborne—That is what your question embraced.

Mr. Hague—Number two, as the witness has testified is entirely right, that is, it is satisfactory to me.

Commissioner Osborne—He includes in number two that part of number three that is not in the river, under the river.

Q. Now, Mr. Ryan, parcel three as you have valued it at $2,590—

A. Yes.

Q. —would take in the land included within the bed of the river, would it not?

A. It would; it is most all low.

Q. It is all in the bed of the river, isn't it?

A. Practically, when the river is high, yes.

Q. It would be included in the flow of the river, if the river had a freshet there or an abnormal flow?

A. Yes.

Q. Where do you arrive at $2,500 as the value for that?

A. I arrived at that by estimating as to the plant on the other side of Westfield Avenue. It is almost di-

rectly opposite this; I think it is; and that I arrived at at an acreage price of something like $14,390 an acre.

Q. For what purpose did you put the valuation on?

A. For what purpose?

Q. Yes.

A. It is simply to—there was no purpose.

Q. For water works purposes?

A. No. I put the price as what the land could possibly be used for.

Q. (By Commissioner Osborne.) Is this river navigable?

A. No.

Q. (By Mr. Hague.) Where could you use the river?

A. Where could I use the river?

Q. (By Commissioner Osborne.) What good is land on the river; on what theory did you value it at any price?

A. The theory I put the value on this—

Q. (By Mr. Hague.) Could they put a building there?

A. Let me answer, please. How I arrived at that figure, I took the value as acreage, acreage value on the piece opposite, the large piece, and I allowed twenty-five per cent. of that value to apply on this.

Q. (By Commissioner Osborne.) On what theory?

A. On the theory that it might possibly be built on, on stilts or columns or something, and used in that way.

Q. Have you heard tell of any buildings going up in the Elizabeth River on stilts?

A. I cannot recall, but I think it had some value.

Q. (By Mr. Hague.) Do you think the City of Elizabeth would permit a building to go up there and impede the flow of that water?

A. That water does not take in all that width. That water could be confined within wells.

Q. Isn't the width practically the natural flow of the stream?

A. No. As you said before only at times it is all covered with water.

Q. The City of Elizabeth, on the other side of the street maintains a dam for the Recreation Commissioners for a swimming pool; directly opposite on Westfield Avenue there is a dam maintained and built by the City of Elizabeth.

A. It is, but it is not wide even at that.

Q. Is it your opinion that that property has a value there for any purpose, of twenty-five hundred dollars, the land in the bed of that river?

A. I considered it had a value of twenty-five per cent. on the opposite side of the street.

Q. You have drawn a comparison by land on the other side of the street?

A. You mean land that is directly—

Q. Opposite, and filled in and up to the level of the street; you are talking about that land?

A. Yes.

Commissioner Osborne—Do you contend there is any such value in this piece of land?

Mr. Wherry—The land is part of the other land.

Commissioner Osborne—I know, but as a value that the public ought to pay on?

Mr. Wherry—All these small parcels of land which were acquired as part of larger tracts are still maintained by the company, and they have rights over those lands. This land can be filled. There is a small value that can be put on here and is allowable in the case.

Commissioner Osborne—You cannot fill up the river.

Mr. Wherry—There is part of it that can be filled; seventy-five per cent. of it.

Mr. Hague—I beg your pardon. Seventy-five per cent. cannot.

Commissioner Osborne—If this was acquired as part of the whole, it would be simpler if it

was valued as part of the whole. Now, if you are going to segregate it and say there is a piece at the bottom of the Elizabeth River that is worth $2,500 more or less, that the people should pay on it, that puts us in rather a curious position. I do not see how you can maintain any such position.

Mr. Wherry—Of course the real estate expert has valued it for a purpose there, and takes a part of it, takes twenty-five per cent. as I understand it.

Commissioner Osborne—Of some other value he fixed?

Mr. Wherry—Of land adjoining it.

Commissioner Osborne—Land opposite, that is what he said.

Mr. Wherry—Land right adjoining it. Isn't it the land adjoining?

Witness—Either way; the land adjoining it.

Commissioner Osborne—He said he fixed the land across the road at a certain price, and said this was worth twenty-five per cent. of that.

Mr. Hague—He said it is twenty-five per cent. of this property here which is upland and filled in to the level of the street.

Commissioner Osborne—I cannot follow any such opinion as that.

Witness—It is a question of opinion.

Commissioner Osborne—I was wondering whether you could follow any such opinion, and if you cannot, we may as well come to a conclusion on that.

Mr. Wherry—I am not urging that. I have not gone all through the real estate valuation with a fine-tooth comb. That is why I am letting Mr. Hague do it. There are various small parcels in that real estate that were bought, all as part of a whole. They have been valued by the real estate men, the way they value that,

taking and dividing them up. I would include that $2,500.

Mr. Hague—If they would put in that cost it would be all right.

Mr. Wherry—Some have been put in at their cost.

Commissioner Osborne—I think we might short—the public ought to pay on.

Mr. Wherry—I would be willing to admit that on the $2,590.

Commissioner Osborne—It seems to me it does not show that on its face.

Mr. Hague—That item is excluded?

Mr. Wherry—I would just as soon exclude that item. If Mr. Hague points out any others of that sort we might agree on it.

Q. (By Mr. Hague.) Across the street, item 42, diagram 10, shows property directly across the street, parcel 42?

A. Parcel 42, yes.

Q. That you have in a valuation of $1,440?

A. That is on the same basis as the other.

Q. Directly across from Westfield Avenue on the opposite side of the street.

Mr. Wherry—Is that under water, too?

Mr. Hague—Absolutely.

Commissioner Osborne—According to the map it is.

Q. On that property the city maintains a dam across one corner of that property, don't they?

A. It did. I don't know whether they make use of it now or not.

Q. They do now?

A. Yes.

Mr. Wherry—Does that property add anything to the value of property adjoining that you have not included in the value of property adjoining?

Witness—I do not understand.

Mr. Hague—It is not navigable. There is a stone bridge across there.

Commissioner Osborne—Let us get this question answered. It may simplify the whole thing.

Mr. Wherry—What I want to know is this: You have appraised those two pieces of property?

Witness—Yes.

Mr. Wherry—You tried to separate and appraise this parcel No. 42 separate from that parcel; did you consider that that had any value, if you were asked to appraise it as a whole, you would include any additional value in here?

Witness—No. But I consider that it might possibly be of some use, only on both sides of the river here it might be of some use.

Mr. Wherry—Because they own on both sides of the river?

Witness—Yes.

Q. (By Mr. Hague.) Mr. Ryan, where do you get that that they own on both sides of the river?

A. That would indicate here.

Commissioner Osborne—He says parcel 42 is appraised exactly on the same basis as the other one under water.

Witness—The same exactly, it being low and subject to overflow. It is subject to overflow the same as the opposite side.

Mr. Wherry—Those parcels have water rights, part of the whole acquisition; that is why we included it here as used and useful.

Mr. Hague—That hasn't anything to do with a real estate valuation, the water rights. Do you consent to the elimination of that parcel?

Witness—No. That parcel is right across the river. They have land on both sides here and the water rights attached to the land. He has valued it as real estate, put a real estate value on of $1,440. I think that is a pretty small value.

Q. (By Mr. Hague.) What is it we fix the value on this at $1,440; what is that value made up of?

A. That is twenty-five per cent. of the fourteen thousand dollars an acre.

Q. (By Commissioner Osborne.) How much, thirty-five per cent.?

A. Twenty-five per cent.

Q. (By Mr. Hague.) Of the adjoining property?

A. Yes, twenty-five per cent. of the property; make it that way.

Q. Is that property used, parcel No. 42, is that used by the water company in any way?

A. You mean the whole tract?

Q. Parcel No. 42, the part within the bed of the river?

A. I cannot say it is, no. I do not think it is.

Commissioner Osborne—I think we better adjourn at this point.

Mr. Wherry—Before we adjourn, if Mr. Hague will indicate to me those parcels that are in that situation, I think we can eliminate the amount of those parcels.

Commissioner Osborne—Can't you take it up with Mr. Hague?

Mr. Hague—I don't know as we are going very much further on that. We are going on another tack. If there are any others similarly situated I would be glad to take it up with Mr. Wherry.

Recess from one to two o'clock.

AFTER RECESS.

Mr. Hague—Mr. Wherry, is Mr. Hill here?

Mr. Wherry—He has gone.

Mr. Hague—There was a question asked by Judge Treacy on page 121 of the testimony: "What is the record of this company as to the return in the past; do you know; have you studied that?" A. "I can get you that data." He said, "I wish you would."

Commissioner Osborne—Has that been furnished in this questionnaire?

Mr. Wherry—It is in the questionnaire for three years.

Mr. Hague—They furnish three years.

Commissioner Osborne—I think Judge Treacy contemplated a longer period than that.

Mr. Wherry—Then the whole question comes down to the rate of return on what? We can give you the net earnings or that period.

Commissioner Osborne—What dividends has this company paid over a period of years?

Mr. Wherry—Dividends would be a different thing, the dividend record.

Commissioner Osborne—Is that what he asked for, dividends?

Mr. Wherry—No. He asked for the rate of return, what rate of return did the company earn?

Mr. Hague—We had in mind it would show the dividends paid during that period.

Commissioner Osborne—Do you want that answered more specifically?

Mr. Hague—We would ask that for a period of ten years.

Mr. Wherry—You want the returns for ten years, the earnings and operating expenses. The Board's rules require three years earning and operating expenses.

Commissioner Osborne—What is the record of this company as to return in the past? That has been furnished for three years and you would like it for another period?

Mr. Hague—Yes.

Commissioner Osborne—I suppose it is a very simple matter.

Mr. Wherry—Well, it means a computation.

Commissioner Osborne—Didn't you pay it?

Mr. Wherry—That says return. Return on what, on the book value of the property or the value of it, the appraised value of it? Does it go as to the return which the company has earned or does it mean net earnings?

Commissioner Osborne—Well, he apparently said he could get the data. What did he think he could get?

Mr. Wherry—He furnished three years.

Commissioner Osborne—What did he furnish for three years?

Mr. Wherry—He furnished it on three different bases, showing the earnings and operating expenses for the past three years, and what return that would be on the book cost, the modified book cost and the appraised value of the property.

Mr. Hague—Does that include the dividends paid?

Mr. Wherry—I do not think it has anything to do with dividends. I did not suppose that question related to dividends. I think the dividends have been furnished. They are a part of the record.

Mr. Hague—I would ask that the data submitted by Mr. Hill be extended back to cover a period of ten years and that they also furnish for that period the dividends paid by the company during that same period.

Mr. Wherry—As far as the facts go, we do not object to furnishing facts but we do to furnishing computations. I think there must be some limit on that.

Commissioner Osborne—Of course there must be some limit. The question is what a reasonable limit is.

Mr. Wherry—If the Commission wants that extended back ten years we will extend it back ten years.

Commissioner Osborne—The return does have some relation to the justice of the present request on the company's part.

Mr. Carver—Have the annual reports been considered as exhibits? It would be in that.

Mr. Wherry—It is in the annual reports of course. The sources are available to them to make their own computation.

Commissioner Osborne—There is no reason why you should not offer that then.

Mr. Wherry—They can offer it. I do not see why I should offer it.

Commissioner Osborne—They want that information. That can be considered as part of the record here.

Mr. Wherry—Yes; they are part of the record.

Commissioner Osborne—Whether offered in evidence or not, I do not see that it makes any difference; we have a perfect right to refer to them; it is a public record.

Mr. Wherry—It is a question of whether you want me to make another computation.

Commissioner Osborne—I do not want you to do anything that is not necessary, because all the money you spend the public will have to pay for in rates.

Mr. Hague—That little bit that that will involve will not add very much.

Commissioner Osborne—If the information is here on record it is no use of duplicating. You say it is here?

Mr. Carver—The annual reports would give the net earnings.

Commissioner Osborne—Is that what you want, the net earnings?

Mr. Hague—The dividends paid each year.

Commissioner Osborne—Those reports have been filed for the last ten years?

Mr. Carver—Yes; since 1911.

Mr. Wherry—Following the general rule, general order number fifteen, or some order of the Commission, we are required to give it for three years, so on our table which we submitted at the outset of the case, we submitted the dividends, rents paid, interest on it and net earnings for three years.

Commissioner Osborne—Suppose you point out to your expert these records and ascertain whether this information is now available in that form. If it is not, we will have to supplement it by whatever is necessary. If it is, there is no use of duplicating it. He can do that.

Mr. Carver—I said ten years—1911 would be nine years.

Mr. Wherry—That was Colonel Betts' question, I thought, and if that is not what Colonel Betts wanted in the way of an answer to it, we would be very glad—

Mr. Hague—I am speaking of the question propounded by Commissioner Treacy.

Mr. Wherry—I thought we had answered it because we had complied with the general rule No. 15, but if we had not answered it, of course I am anxious to answer it, and if the Commission wants me to furnish it for ten years or nine years, we will go to work and do it.

Commissioner Osborne—If it is here, we will determine that after the hearing. We will not stop now to see if it is here. If it is not here in the form they desire to have it, then we can supplement it.

William H. Ryan resumes the stand.

Cross-examination, by Mr. Hague (continued).

Q. Turn to diagram eight, which includes parcels No. 4 to 10 inclusive. I ask you what value you put upon parcel No. 4?

A. Number four—in fact I put it all at $500 an acre, on the whole part.

Q. How did you arrive at $500 an acre?

A. From the value of lands in that vicinity.

Q. For what purpose?

A. For any purpose, any ordinary purpose.

Q. Could this land be used for building purposes?

A. Some of it, yes; some of it not at all.

Q. Very little of it could be used for building purposes?

A. No, there is considerable that can be used.

Q. Isn't there a considerable portion of it that is under water a good part of the time?

A. Yes, but that part I consider more valuable than the upper land.

Q. For what purpose?

A. As furnishing a water supply.

Q. You said you considered it for that purpose, I thought?

A. I did. I arrived at the value of the land, made the unit value $500, and so I let it spread over the swamp

part, although I thought at the time that it was an engineering proposition rather than one to be left to a real estate man.

Q. You considered the value for water works purposes, did you?

A. That part, yes. It had a value by reason of that, of the water it supplies.

Q. It would not have a value of that much for building purposes, would it?

A. No.

Q. Are you familiar with the prices paid for land in that vicinity?

A. Not in that immediate vicinity but in that section, land, farm land in general.

Q. Do you know the land that immediately adjoins this property on the south?

A. Do I know it?

Q. Yes.

A. I know of it, yes.

Q. It belongs to the Suburban Golf Course, doesn't it?

A. Yes.

Q. Do you know that they did not pay $500 an acre for theirs and they bought it within about the period you speak of?

A. I don't know what they paid for it. But I had other lands that I have for sale in that same township, and the prices I have received, offers that I have received for it.

Q. Are you familiar with the land adjoining this, owned by the Suburban golf Course?

A. I know of it, yes.

Q. It is much higher land and better land for building purposes a whole lot than this land, isn't it?

A. Well, some of it may be.

Q. Practically all of it?

A. It is no better than some of this.

Q. But there is none of it that is low like this land, that has a pond and a bog on it.

A. No, I think it all high land.

Q. Isn't this land, Mr. Ryan, as a matter of fact, following on each side of the branch of the river, isn't it what is known as the peat meadow?

A. No, we have always known it as the Hummock.

Q. Are you familiar with the map of Union township showing the property all up through here?

A. Yes, sir.

Q. Isn't it shown on there as the peat meadow?

A. I never saw that name.

Q. As a matter of fact there is peat in there, isn't there?

A. I have always known it as the Hummock. How much frontage, may I ask you, has that portion that the Suburban Club acquired recently?

Q. On Morris Avenue?

A. On Morris Avenue.

Q. I think in the neighborhood of one thousand or twelve hundred feet.

A. As much as that?

Q. I think so. Does the same hold true of the parcels from four up to ten, inclusive, as you have testified as to number four?

A. Yes, all the one figures, yes.

Q. The greater portion of that is low ground, as I have stated?

A. Yes, the greater portion is low ground.

Q. You had in mind that it was of that value for water works purposes?

A. Yes; that part of it.

Q. Take number eight—you have number seven.

A. I have eight and nine together, covering that water works plant.

Q. Mr. Ryan, if you will go back to number seven on that other one, I notice there is a difference between that parcel and the others. Why was that?

A. What parcel?

Q. The one at the Hummock station.

A. You mean number seven?

Q. Number seven, the Hummock, have you the Hummock station?

A. I have number seven here at the same price.

Q. You have 1.6 acres, $530?

A. That would be $500 an acre.

Q. 1.6, $500?

A. 1.06.

Q. Then it is wrong here, 1.6; it is 1.06?

A. 1.06, yes.

Q. Now if you will turn to diagram number nine; this is the Seven Bridge water station at Springfield.

A. Yes.

Q. What is the value you put on those tracts?

A. They run from $200 up to $700 an acre; they average all through about $400 an acre.

Q. In fixing that value, did you have in mind water works purposes or residential purposes?

A. Residential or development purposes.

Q. Did you have in mind any water works purposes?

A. No.

Q. Is not all this land low swampy ground?

A. Yes, it is.

Q. Could you build on it?

A. Oh, yes; build on most of it.

Q. I mean all of it?

A. On all of it, yes. Some is lower than others, but the greater portion of it is nice, high ground.

Q. The portion of it that is low and swampy, could you build on that; would that be available for building purposes?

A. Yes, it could be made available.

Q. How did you arrive at those different values on the various tracts?

A. The condition of the ground and their location. The greater portion of it is located on Springfield road, which is a very prominent drive, and that I put, the highland, some at seven hundred dollars an acre.

Q. Which is that, which piece?

A. Parcel sixteen, fifteen and sixteen.

Q. Why did you fix $700 on that?

A. Because it was better land, better quality of land, than that on the south side.

Q. You mean higher land?

A. Higher land.

Q. Fertile land?

A. It was fertile.

Q. For farming purposes?

A. Yes, it was under cultivation at the time.

Q. The land there has a greater value by reason of the frontage on that street, Springfield Avenue, which is the direct highway into Newark, isn't it?

A. Yes. Further on, on that same side of the street, although it fronts on Springfield Avenue, number twelve, that is low and I put that down at $400 an acre.

Q. What did you put on parcel thirteen?

A. Parcel thirteen I put that down at $500 an acre.

Q. And parcel twelve at $400?

A. Parcel twelve at $400, yes.

Q. Parcel thirteen has no frontage, practically no frontage on the road, has it?

A. Well, it has a point that runs out there according to my map.

Q. Just a few feet?

A. A few feet, yes; it has an opening on the road.

Q. You consider that land was of more value than parcel twelve which has a frontage of nearly one thousand feet on Springfield Avenue?

A. Yes. I put that down—there is $100 difference, and that is by reason of the swampy condition of number twelve.

Q. Could number twelve be used for building purposes?

A. It could, by the expenditure of some money.

Q. An expenditure which will be in excess of the value of the land, wouldn't it?

A. There will be that difference, I think, a difference of $100 an acre.

Q. It would cost as much as the whole property you appraised, to fill it in, to make it available.

A. No. I don't think it would go so bad as that.

Q. Did you have in mind in the appraisal on parcel twelve, in fixing it, that it was to be used for water purposes?

A. No.

Q. Parcel number twenty-eight, twenty-six one hundredths of an acre; what rate did you put that in at?

A. I put that in at $2,000 an acre.

Q. How much?

A. At two thousand dollars an acre.

Q. It faces on Vaux Hall Road?

A. Yes.

Q. And has a frontage of how much?

A. I think it has 25 feet.

Q. Could you sell it for that much?

A. It is worth that much if not more, in order to get an entrance and outlet to that property.

Q. Could you sell it to any willing buyer at that price?

A. That I could not say.

Q. Could you get two thousand dollars for a piece of land with twenty-five feet fronting on Vaux Hall Road?

A. Yes, I would, as an investment, as an opening to this land back here.

Q. For building purposes, for any general purpose.

A. I am speaking now at the rate of two thousand dollars per acre; that makes that strip worth $520.

Q. Do you mean to say a lot with twenty-five feet on Vaux Hall Road would sell for over $100 per front foot?

A. Not an ordinary lot, no, but the use that can be made of this; it is worth that.

Q. They have a frontage all along Springfield Avenue to get into all their other property, haven't they?

A. They could go from one piece to another.

Q. They could go all over their property?

A. Yes, they could.

Q. It is contiguous?

A. I considered that that strip in opening out on Vaux Hall Road was worth that much, that price per acre, by reason of it being a strip.

Q. Then in fixing this valuation on there, you had in mind the using of that property, this parcel number twenty-eight, for water works purposes, didn't you?

A. For any purpose that anyone wanted to use that land; not necessarily water works.

Q. Nobody owned it but the water works?

A. That is true.

Q. And it was for access to their property?

A. Certainly.

Q. Would it be of that value to anyone else?

A. Not as a strip alone.

Q. How much would it be worth to somebody that bought it for building purposes?

A. Well, I would venture to say about $200.

Q. And it is put in at $2500?

A. No, it is put in at $500.

Q. $520?

A. Yes.

Q. Parcel thirty-five, Mr. Ryan, diagram ten, back to Westfield Avenue?

A. Is that the one we did have?

Q. Yes. We did not go into the value of it.

A. Are you back to Westfield Avenue near Union Street?

Q. The large piece on the north side of Westfield Avenue, $17,268; how did you arrive at that figure?

A. I arrived at that figure by taking the value of that piece as a whole, fronting on Westfield Avenue.

Q. A front foot value?

A. At a front foot value.

Q. What value did you place upon it per front foot?

A. I put that, with the full depth, I placed the value at $125 per front foot.

Q. Has there been any land sold in that vicinity for that much recently?

A. Yes, there has.

Q. Where?

A. Just below, near Union Street.

Q. On the same side of the street?

A. Yes.

Q. That property nearer Morris Avenue, you mean, on the north side of the street?

A. The property known as—the garage.

Q. The LaMotte Garage?

A. The LaMotte Garage. That was sold some three or four years ago and the land at that time was $75 per front foot, and he only runs back about—well, not over one-third the distance of this.

Q. There was a building on that, a modern brick building?

A. The land is worth more to-day than what he paid for his.

Q. That land was not sold per front foot; it was sold including a modern brick garage on it, wasn't it?

A. I know, but I remember the appraisement of it and the land was put in at $75 a foot.

Q. Diagram number eleven.

A. What property is that?

Q. Chilton Street Reservoir, parcel number 43; how did you arrive at that value of the Chilton Street Reservoir?

A. I measured up the plot involved, the same as I would vacant land if the land was vacant and not opened.

Q. Did you value it for building purposes or for water purposes?

A. Yes; for building purposes.

Q. Could it be used for building purposes?

A. Not in its present state.

Q. If the water was taken out of it could it be used for building purposes in its present state?

A. If it was filled in. No, not unless it was filled in, but I look upon it as having a value, a land value, just the same as though there was no basin there at all.

Q. Did you base that on a front foot value?

A. Yes.

Q. What value per front foot, did you put on it?

A. Forty dollars per front foot.

Q. Fronting on Chilton Street?

A. Yes.

Q. That carried the full depth of it?

A. The full depth of it.

Q. Item number 57, on that same diagram, you have in at $600.

A. I put that down at sixty dollars per foot; I think it is ten feet wide.

Q. Do you consider the value of Cherry Street property more than Chilton Street?

A. Yes, I do.

Q. On what is that based?

A. On what?

Q. How do you base that?

A. It is a street nearer town, one block nearer town.

Q. Would that make ten dollars difference per front foot?

A. Yes.

Q. They are both used for residential purposes, are they not?

A. Yes, that is true.

Q. Item 58, sixteen hundred dollars; at what price per front foot have you got that?

A. I put that down at forty dollars.

Q. Forty dollars at West Grand Street?

A. Forty dollars at West Grand Street, yes.

Q. Item No. 56, right of way from West Grand Street apparently.

A. The same price.

Q. Diagram No. 12, the Irvington Avenue reservoir; what price did you fix on that?

A. The total price?

Q. Per front foot.

A. I cut that up. I cut that up into parcels. We divided this parcel by giving it a frontage on Irvington Avenue of 800 feet and 175 feet in depth out in the reservoir; we valued that at thirty-five dollars per front foot. We made a corner at Parker Road and Irvington Avenue of 175 feet on each street, which we valued at forty dollars per foot.

Q. Fronting on what street?

A. Fronting on Parker Road and Irvington Avenue, a quarter lot 175 feet square. That on the point of Irvington Avenue and Prince Street, having a frontage on Irvington Avenue at Prince Street of eighty-seven and a half feet we valued at fifty dollars per foot.

Q. On what corner?

A. The corner of Irvington Avenue and Prince, down at the point.

Q. Orchard Street?

A. Down near Orchard Street, yes.

Q. With a depth of how much?

A. That would almost take it across to the river, that eighty-seven and a half feet. We also take a strip of Parker Road, 175 feet, at Prince Street, say over to the river, 175 feet back, at thirty dollars per foot.

Q. Where does that run from, 175 feet from Irvington Avenue and then running along—

A. To the river.

Q. —to the river, with a depth of how much?

A. 175 feet. We put that down at thirty dollars per front foot. After these lots were taken out it left an acreage in the center of about four and a half.

Q. You mean in the rear of these Irvington Avenue lots?

A. Yes; in the rear of also Parker Road; it left an acreage in there of four and a half which we valued at $5,000 an acre.

Q. And that acreage would be 175 feet south of Parker Road, 175 feet west of Irvington Avenue.

A. Yes.

Q. And running through to the creek?

A. And running through to the creek, yes.

Q. And that you put in at a price of how much per acre?

A. Five thousand dollars per acre.

Q. These values that you put on this Irvington Avenue frontage, and on the Parker Road frontage and on the Prince Street or Orchard Street frontage, are they based upon the values of adjoining property?

A. Yes.

Q. Across the street?

A. Yes.

Q. They brought forty dollars per front foot, have they?

A. Some of them brought more.

Q. And some of them less?

A. Yes. Not only that, not necessarily across the street, but similar land in general throughout the city.

Q. You could not get forty dollars per front foot for the land on Parker Road, facing on Parker Road, could you?

A. Forty dollars?

Q. Yes.

A. I think so.

Q. There are no improvements on Parker Road at all?

A. No.

Q. No. sidewalks even?

A. No.

Q. No sewer, water or gas; that is, that point?

A. I think there is water there; I am not sure.

Q. You put that in at a value of twenty dollars per front foot, was it?

A. Forty dollars.

Q. On Parker Road, I mean, the upper part of it.

A. Near the river?

Q. Yes.

A. Thirty dollars I put that in at.

Q. You think that is worth thirty dollars per front foot as it stands there without any improvements at all?

A. Yes, sir; I do.

Q. There have been no sales of it in there?

A. There have been no sales made, nor none offered.

Q. That is your judgment?

A. In my judgment it is worth thirty dollars per foot.

Q. How deep is that reservoir?

A. How deep is it?

Q. Yes.

A. I don't know; I did not measure that.

Q. It is quite deep, isn't it?

A. I imagine so, but I did not go into that.

Q. You have stated that you took and based these values upon the sale price of land in that vicinity?

A. Yes.

Q. Could you sell this land for building purposes at the same price as land across the street, unless that reservoir was filled in?

A. No.

Q. Then why did you fix the value at what property across the street would bring where if this reservoir was abandoned, to make that available for building purposes it would require considerable fill to fill it in to bring it up to the level of foundations.

A. I considered, when I was sent out to appraise the land, that I was not to consider it being damaged by the use that was being made of it. It is a land value.

Q. It would not be worth that price to anyone in its present condition, except the water company, would it?

A. Well, I don't think it would, no.

Q. Take parcel 46, you have 22.3 acres, $78,050; how did you arrive at that?

A. How many acres?

Q. You have 22.3 more or less.

A. I fixed that at $3,500 an acre; I fixed the price on that at $3,500 an acre.

Q. You are familiar with that land?

A. Yes.

Q. That land, all the property that is shown in this diagram, is the bed of the Elizabeth River, isn't it?

A. The Elizabeth River, some of it, yes.

Q. Practically all of it?

A. No.

Q. A good portion of it?

A. No.

Q. It is for its entire length?

A. There is a part of it that is not; take North Avenue runs across it.

Q. It is for its entire length, isn't it?

A. The Elizabeth River?

Q. The Elizabeth River runs through the entire length of that tract?

A. Yes.

Q. And the Elizabeth River has a width of approximately what, one hundred feet?

A. No.

Q. How much?

A. The stream has not an average width of twenty feet.

Q. It is more than that at North Avenue?

A. Well, it may have it by reason of damming it.

Q. Are you familiar with the bridge that spans it there?

A. Yes, but not the stream itself.

Q. The bridge is considerably more than twenty feet?

A. Yes, sir; I think it is.

Q. That was supposed to stand the original stream, wasn't it?

A. They usually carry a road bridge more than just the edge of the stream.

Q. How deep is that, Mr. Ryan?

A. Which, the river?

Q. The tract that you have shown here as 46.

A. I cannot give you the depth, only by the scale.

Q. That is an ancient water course, as old as the country is, isn't it?

A. Yes, it is an old water course, no question about that.

Q. If it was to be made available for building purposes, it would have to be all filled in, wouldn't it?

A. No, not all.

Q. All the parts shown as parcel 46 would have to, wouldn't it; that is the land embraced within the lines of the water as shown there?

A. That might be, yes.

Q. As a matter of fact the surface of that water is below the surface of the street, isn't it?

A. Yes.

Q. As you go across the point here shown, North Avenue, the street is higher than the surface of that water?

A. There isn't much difference.

Q. There is at least three feet difference, isn't there?

A. No; there isn't half of three feet.

Q. Have you been over it recently?

A. Yes.

Q. I go over it about two or three times a week.

A. There isn't that much difference.

Q. You mean to say that the water comes up within a foot of that street, North Avenue?

A. That has been built up on account of the bridge; they have raised the bridge there, but the street, there isn't that much difference.

Q. The street is raised up?

A. No, not necessarily.

Q. The street is level, or even low there, isn't it?

A. It may be low, but it is not a foot, three feet above the surface.

Q. The normal surface of the water as it is now?

A. No, it is not as high as that.

Q. What would you say it is?

A. Not over one and a half feet; maybe two feet.

Q. Then the bottom of that reservoir is considerably below that, isn't it, below the surface?

A. Yes.

Q. And if it was to be made available for building purposes, it would have to be filled in to that level?

A. Yes. That being a question I did not go into, the same as in Irvington Avenue.

Q. And that would considerably reduce the cost of it, wouldn't it?

A. To the one to make use of it now?

Q. For residential purposes, building purposes?

A. But I valued this land just the same as if it were not used for that purpose.

Q. For water purposes?

A. Yes.

Q. That is what you valued it for?

A. Yes.

Q. And not for building purposes?

A. I valued it just the same as though it were already filled in.

Q. When you figured this out, did you take out a certain portion of it which was the stream, and deduct that from the acreage that you were valuing?

A. No; I took the acreage as it was given.

Q. You took all the acreage, which included the bed of the stream, didn't you?

A. I took the acreage as was contained in the memorandum that was furnished me.

Q. And that includes the full part of it, that covers also the natural stream that was there?

A. Possibly.

Q. You put a valuation of $78,050 on that.

A. Whatever it might have amounted to, yes.

Q. Item No. 47.

A. I put that in at the same price.

Q. What is that?

A. $3,500 an acre.

Q. What is it used for?

A. 47?

Q. Yes.

A. That is used in connection with—that is along Parker Road; that is all high land.

Q. That has a frontage on Parker Road of how much?

A. I imagine about thirty, thirty-five feet; that is of the hard land.

Q. You put that in at five thousand dollars, $5,200?

A. Put it in by the acre, $3,500 an acre, whatever that is, one and a half acres.

Q. What is the depth of that?

A. Of that strip?

Q. Yes.

A. According to my diagram here it would be about thirty-five feet.

Q. Front?

A. I guess I must be wrong.

Q. What depth?

A. The depth as shown here is about thirty-five feet and length about one hundred feet.

Q. Is that an acre and one-fifth?

A. No, an acre and a half I have here in my memorandum.

Q. As a matter of fact it is less than one-tenth of an acre, isn't it, if those connections you have given are correct?

A. This is simply a diagram of it.

Q. These are your figures, your scale that is in here?

A. I am going by my own diagram here.

Q. I will show you an exhibit in the case and see whether it complies with your diagram; your diagram is not in evidence.

A. Yes; that is about the size of it.

Q. Is it an acre and a half as shown here in this valuation?

A. That is what is called for on the memorandum that was furnished me. At the same rate per acre, one and a half acres.

Q. As a matter of fact it is less than one-quarter of an acre, less than one-tenth of an acre.

A. According to this, it is not as much as one and a half.

Q. As shown here. Are you of the opinion now that that property is worth $5,250?

A. I say it is worth $3,500 an acre whatever it measures and according to the memorandum I have as taken from the—

Q. That would be in the neighborhood of $250, if it is the dimensions you state?

A. Whatever that would work out.

Q. These are your figures that have been submitted in the appraisal, are they not, this appraisal that is in evidence here?

A. Yes.

Q. Then, are these figures correct insofar as that is concerned?

A. Will you be kind enough to let me see that memorandum to see if that is the one furnished me?

Q. The second one from the top.

A. The dimensions are not my figures.

Q. The values?

A. The values I filled in. That was given to me, that number forty-seven was given to me as five and a half acres plus.

Q. You mean one and a half acres?

A. I put in my value in keeping with those figures.

Q. Did you examine the property?

A. Yes.

Q. Did you find out whether there were one and one-half acres?

A. I did not measure it; I looked it over.

Q. As the map is shown in evidence, is there one and a half acres in it?

A. No, not according to this map.

Q. In your opinion about how much is there in it?

A. Whatever that will measure out, say thirty-five by one hundred ,about 3,500 square feet.

Q. Then, if those dimensions are wrong, this valuation is wrong on that item?

A. That valuation should be reduced in accordance.

Q. Item 48, what are the dimensions of that piece?

A. Four-tenths of an acre.

Q. What is the size of it; what are the dimensions of it?

A. What I have here for forty-eight is four-tenths of an acre plus.

Q. As shown on the diagram, is it possible to be that?

A. I could not measure it by the diagram. My diagram does not show the shape of it.

Q. Would it contain four-tenths of an acre as shown on the diagram?

A. I beg your pardon?

Q. Would it contain four-tenths of an acre as shown on the diagram?

A. My diagram does not show that portion at all.

Q. I show you the diagram in evidence, the maps that are in evidence; it is marked there.

A. In yellow?

Q. In yellow. That small yellow piece, does it show four-tenths of an acre as shown there?

A. Yes, I think so.

Q. Isn't it smaller than the other piece that adjoins it, that you said contained 3,500 square feet?

A. I will tell you; I am glad you handed this to me. A portion of this scale is fifty feet to the inch. I find now by reference here that that piece we have been considering thirty-five feet one way and 100 feet the other, on a fifty-foot scale, it is based here on 400 feet to the inch.

Q. What is it?

A. Measure it yourself and see.

Q. I am asking you; you are the man that put the appraisal on it.

A. I go by the figures given me, an acre and a half. At that rate there is an acre and a half.

Q. I am asking you. It is for you to say what it is.

A. I was laboring under the fifty-foot scale, as some of this stuff is, so an acre and a half is right.

Mr. Wherry—The scale of that map is larger than the scale of some of those other maps.

Q. Will you correct that, Mr. Ryan. What are the dimensions of it since your attention has been called to it?

A. I have not got a 400-foot scale with me, so I would not want to calculate it.

Q. Have you any way of scaling it at all?

A. No, not to be exact. I have a fifty-foot scale here, but I would not like to attempt to—

Q. You are familiar with this road here, this Parker Road?

A. Yes.

Q. It is the old road leading to Trotter's Bridge, isn't it?

A. Yes.

Q. And very little, if any, traffic goes over it?

A. I could not say how much. I know I do not go over it very often.

Q. Have you ever been over it recently?

A. No. There is a road there.

Q. Did you go over it at the time?

A. Yes; I was all over it.

Q. You did not find much evidence of traffis on it?

A. No, I did not.

Q. It is your opinion that that lot in there would be worth $5,200, that anyone would pay that for it?

A. For an acre and a half, yes.

Q. At that point

A. At that point, yes.

Q. With no improvements in it whatsoever, water, sewer, gas or anything else?

A. Yes.

Q. Do you think you could get a purchaser for it?

A. I do. I consider that a fair price on all that stuff.

Q. Take parcel No. 49, what are the dimensions of that, not by acreage, in frontage?

A. I will not undertake to give you any frontage on this. I appraised this by the acre.

Q. How about this acreage on it?

A. I don't know.

Q. Do you know whether there is that acreage in it?

A. No, I could not say.

Q. Then was this given to you as containing so much acreage?

A. That was given to me by the engineer of the water company.

Q. And you don't know whether it has that acreage in it or not?

A. No.

Q. You don't know whether any of these tracts have the acreage in it, from your own knowledge?

A. No, I did not measure them. I took the measurement as given.

Q. And your figures are all based upon information as to the acreage of what was given to you?

A. That is right.

Q. Parcel No. 50, Rahway Booster station, where is that property?

A. That is on the Westfield Road, within the city limits of Rahway, near the Rahway Water Works, where the trolley line turns in from Westfield Avenue towards Cranford.

Q. What is it used for?

A. It is used now for some sort of a water station, I believe.

Q. The whole of it, does it take up that whole property?

A. No, not the whole of it.

Q. How much of it is taken up?

A. I imagine about thirty or forty feet of the front.

Q. On the corner?

A. No, it is on the corner of the driveway.

Q. On the driveway, the lot that is shown next to the driveway?

A. Yes.

Q. And what is on the rest of it?

A. I don't know there is anything on it?

Q. There is nothing on the rest of it?

A. Yes.

Q. Will you turn to item No. 52. Did you value the Raritan Reservoir?

A. No, I don't think so.

Mr. Wherry—Yes; he valued it down to 62.

Q. This is the Raritan proposed reservoir site?

A. No. 52?

Q. No. 52. How did you arrive at that?

A. I arrived at that at the prevailing figures of land, property, in that section.

Q. And what was the value?

A. $300 an acre.

Q. Do you know the value of other lands there; have you ever sold other lands there?

A. Not in that immediate vicinity, no.

Q. How near to it have you ever sold lands in that vicinity?

A. I sold lands in Rahway and near Rahway.

Q. This is some distance from there, isn't it?

A. And Hillside Township. But that, with the railroad frontage of two or three thousand feet, I looked upon it as being cheap at $300 an acre.

Q. It is all farm land out there, isn't it?

A. Yes, all farm land.

Q. No manufacturing?

A. No, not now.

Q. So far as the railroad frontage is concerned, there is miles and miles of it out there which is situated the same way along the railroad?

A. Yes.

Q. Undeveloped?

A. This could be used for a factory.

Q. If it had the people to work in them. Item 53.

A. Morris Avenue?

Q. Yes. Where is that land located?

A. That is north of Union, just above Stuyvesant Avenue.

Q. North of the Meeker Inn?

A. Yes.

Q. What is it used for?

A. It is not used at all; vacant land there.

Q. It is vacant land?

A. Yes.

Q. It has nothing on it?

A. There is nothing on it.

Q. What value did you place on that?

A. We put that in at one thousand dollars an acre.

Q. Diagram No. 19, parcels 59 and 60.

Mr. Hague—Mr. Wherry, will you consent to strike those items out?

Mr. Wherry—Which are those?

Mr. Hague—59 and 60. Then I won't go into them.

Mr. Wherry—What are they?

Mr. Hague—They are property that Mr. Hill said was not used in connection with it, as I recall, and have no bearing on it. They are along the Elizabeth River, they are on Broad Street, Sheridan Mill.

Mr. Wherry—Part of the storehouse; were used for storehouse at one time and still have pipe on there now.

Mr. Hague—Which has the pipe on it?

Mr. Wherry—There is pipe on some of that property now.

Mr. Hague—Woodruff's stores is there now; it is used as a storage warehouse; isn't that what it is used for?

Witness—Yes; as far as I know.

Mr. Hague—There is a brick building there, the old Sheridan Mills. It is used as Woodruff's storehouse now.

Witness—Yes.

Mr. Hague—If there is pipe on there, there is lots of room on the Westfield Avenue site for all the pipe the company has got.

Mr. Wherry—That is not the parcel you are speaking of, Mr. Hague.

Mr. Hague—Yes; I think in his appraisement he made reference to these three.

Mr. Wherry—He said he had excluded them.

Mr. Hague—He made reference to parcel 59, 60 and 61.

Mr. Wherry—He said he excluded them.

Mr. Hague—He said they were not used in connection with the business.

Mr. Wherry—Didn't he say he had excluded them? You are not referring to this morning, are you? You are referring to his appraisal.

Mr. Hague—No, I am not referring to this morning. I have mine marked here "all out."

Mr. Wherry—Yes, those are out.

Mr. Hague—59, 60 and 61, isn't it?

Mr. Wherry—And 62, I think, too.

Mr. Hague—And 62, yes.

Mr. Wherry—Yes; those are not in.

Mr. Hague—Then we will agree on the record here where this is submitted, to avoid that confusion.

Mr. Wherry—Certainly, those are out.

Mr. Hague—It is agreed that items 59, 60, 61 and 62 are not in.

Commissioner Osborne—On what diagram?

Mr. Hague—They are on the list and are shown on diagrams No. 19, 20 and 21, and are not used or useful and should not be included in the appraisal.

Mr. Wherry—They are not included in the appraisal.

Mr. Hague—But they are included in this appraisal here that has been put in evidence.

Mr. Wherry—But they are not included in the rate base.

Commissioner Osborne—Why are we wasting any time on them?

Mr. Hague—I am not going to. I just wanted to have them admit that so the record would be clear.

Q. You did not value the Piscataway Water Works?

A. No.

Q. Did you value any of the right of way?

A. No.

Q. None of it?

A. No.

Q. Did you value the right of way in Elizabeth?

A. No.

Q. None of it?

A. I only valued the stuff you have in that pamphlet.

Q. You did not value the right of way as shown on diagram No. 12, showing the Irvington Avenue reservoir?

A. No, there was no right of way connected there.

Q. And your valuation of that property included between Irvington Avenue, Parker Road, Orchard Street or Prince Street and the Elizabeth River?

A. Yes, that is it.

Mr. Hague—That is all.

Mr. Wherry—I have no questions. I have one more witness. I will look up the acreage of those two. I think that description is taken from the deed.

Mr. Hague—I think probably Mr. Ryan made a mistake in that map, using the scale.

Mr. Wherry—Yes, there was a different scale.

Lawrence Chamberlain, sworn on behalf of Petitioner.

Direct examination, by Mr. Wherry.

Q. Mr. Chamberlain, are you the president of Lawrence Chamberlain Company?

A. I am.

Q. Your office is 115 Broadway, New York?

A. 115 Broadway, New York.

Q. What business are you engaged in?

A. The selling of investment securities.

Q. How long have you been in that business?

A. Since 1906.

Q. Are you familiar with the conditions in that business since that time?

A. I think I am.

Q. In addition to that, have you ever made any special studies or written any books on the question of securities?

A. Yes. I am the author of a book entitled "The Principles of Bond Investment," which is used by most

of the universities of the country in their department of economics, and by the investment bankers of the country.

Q. And you have also been called as an expert witness on questions connected with the earnings and marketability of securities of these public utilities, have you, in the last few years?

A. Yes.

Q. Will you name some of the instances?

A. I represented and made up the case, the financial end of the five per cent. railway rate case.

Q. For the Interstate Commerce Commission?

A. For the Interstate Commerce Commission.

Q. How long ago was that?

A. That was in the fall of 1914.

Q. You also testified in the Hackensack Water case in 1916?

A. In 1916.

Q. You made a special study at that time, did you, of the conditions?

A. I made a very careful study at that time of conditions affecting public utility corporations, rates of return on values and things of that type.

Q. In 1916 you made that study, and then in 1920, didn't you, in a case before this Board, involving the Elizabethtown Water Company, testify with respect to the question of the possibility of the company refunding its bonds which were then overdue?

A. I did.

Mr. Hague—The Elizabethtown Water Company?

Mr. Wherry—Yes, in the meter case; he was called as an expert.

Q. At that time you had been consulted in regard to the possibility of refunding those bonds and of raising money to provide for installing meters of the Elizabethtown Company; is that correct?

A. That is correct.

Q. Mr. Chamberlain, in your opinion, are conditions surrounding public utility companies very much different

to-day from what they were in October, 1920, when you last testified before the Board?

A. Not much different.

Q. In what way have they changed?

A. They are slightly better to-day than they were in 1920; in October, 1920.

Q. In your opinion, ought a water company earn, in order to induce capital to go into the enterprise, a higher rate of return to-day than it did in 1916?

A. It should.

Q. And how about 1920; higher or lower than in 1920—October, 1920.

A. Practically no difference.

Q. Practically no difference?

A. Practically no difference.

Q. Will you please state the reasons for that? What are the fundamental considerations which govern that answer of yours?

A. The reason it is more difficult to finance now than it was in 1916 is because the power of money is less to-day than it was in 1916.

Q. What do you mean by that, Mr. Chamberlain?

A. I mean that a dollar does not go as far as it did then.

Commissioner Osborne—You were asked about 1920, weren't you?

Mr. Wherry—I was asking him if it took a higher rate of return to-day than in 1916 when he made that first study, or in 1920 when he last testified here. He has covered his 1916 very briefly, and I thought perhaps he could go furthere.

Q. How about the difference in conditions since October, 1920? Call money rates have gone down, haven't they?

A. They have gone down, yes.

Q. The bond market in general has gone up some?

A. The bond market has gone up some.

Q. Will you please explain what influence those things have on the rate of return which a company

would have to earn, a public utility company here in New Jersey, when it goes into the market to finance?

A. In other words, you want a more detailed explanation?

Q. Exactly. I want you to state what the principles are, what the situation is.

A. The ability of a public utility company, or any other kind of company to finance depends among other things on its earning power.

Q. What are the elements that come into consideration; what is it the investor looks to to determine whether he will invest?

A. The investor looks primarily to the earning power of the company to determine whether he is safe in putting his money into the securities of that company.

Q. (By Commissioner Osborne.) He looks to the earning power to determine safety?

A. Yes, primarily to the earning power of the company. If he is buying bonds, he wants to know what is the excess of earnings over the requirement to meet the interest charges on the bonds and the sinking fund for the retiring of the bonds and any other fixed charges such as interest charges, guarantees of other bonds, and any other fixed charges that the company may have. That is one way of looking at it. If he is buying the stocks of a company, he wants to know what excess of earning power there is after the charges referred to in the previous remarks are taken care of, after the dividends on his stock are taken care of.

Q. (By Mr. Wherry.) Suppose that you had a matter for financing for a public utility in New Jersey, amounting to three million dollars, to do; how could it be most favorably financed and what would money cost you; what would they have to show in the way of earnings?

A. If the public utility were worth three million dollars and the company, we would say, starts in with a clean sheet to finance, pay for that property—

Q. (By Commissioner Osborne.) You mean if the property of the utility were worth three million dollars?

A. $3,000,000.

Q. Not if the company were worth three million; you said if the public utility were worth three million.

A. I mean if the property of the company were worth three million.

Commissioner Osborne—There seems to be a difference, apparently, in the minds of you gentlemen, as to what the company is worth, whether it is worth what its property is worth or whether it is worth what it will earn. I just wanted to make that clear in your answer.

Q. (By Mr. Wherry.) When you say it is worth that, what do you have in mind?

Commissioner Osborne—He says now the property is worth that.

A. The property. The conservative and wisest way, in my opinion, to finance such a company, would be to issue bonds for approximately fifty per cent. of the worth of the property, but it is reasonably safe to issue bonds to the extent of sixty per cent. of the value of the property. The higher the percentage, not only is the greater the danger that at some time in the future the company will not be able to meet the charges on the bonds, but the investor becomes more and more reluctant to invest in the bonds as that ratio increases.

Q. What would those bonds have to pay in the way of interest, what would the company have to pay as interest on the bonds?

A. I should say it would be difficult to finance the average company, small company, at the present time with an interest rate less than eight per cent.

Q. Is three million dollars a small issue?

A. Yes, three million dollars is a small issue. But if you have a three million dollar company, that would be $1,800,000 of bonds, which would be smaller still.

Q. Eight per cent. is what they would have to pay. Does that cover the cost of money?

Commissioner Osborne—No, he don't say that is what they would have to pay. He says it

would be difficult to finance them for less than that. As a matter of fact we know they do finance them for less than that.

Q. Do these small companies, in your experience, finance for less than that?

A. Well, in recent experience there are very few companies that are able to finance; they are out of the market, the same as the railroads have been out of the market, for two or three years.

Q. What would have to be the earnings in order to finance on an eight per cent. basis?

A. The interest charges on a bond issue for a public utility should be earned two and one-half times; twice is the lower limit of safety as view by the average banker and average investor in public utility bonds.

Q. If the earnings are more than two and one-half times, then your interest rate could be lower, could it?

A. Yes; the higher the number of times the interest is earned, the lower the net yield at any rate, whether the actual face coupon rate of the bond were lower or not.

Q. You are talking about the yield aren't you? You are not talking about the coupon rate; you are talking about what they would have to pay?

Commissioner Osborne—Which were you talking about, as a matter of fact.

A. When I spoke of bonds in the first place, I was speaking of eight per cent. coupon bonds, which I believe to-day sell approximately at par. But it would apply with almost equal truth to a seven and one-half per cent. bond sold at a sufficient discount to make the net yield eight per cent.

Q. Now, as a matter of fact, some well seasoned public utility bonds are selling in the market on a better basis than eight per cent. to the investor, are they not?

A. Yes, indeed.

Q. What influence has that on your answer; did you take that into consideration?

A. There are a number of influences that affect the price at which securities are sold, whether public utility

bonds or any other type of bonds. The main consideration is the safety of the security.

Q. (By Commissioner Osborne.) I thought you said the main consideration was its earning capacity?

A. Well, I should say that that was almost tantamount.

Q. In attracting new capital. Of course this means new capital; we are talking about new capital.

A. I do not see that I have contradicted myself.

Q. Possibly you have not. I wanted to clarify the situation.

A. Yes; I recall that statement. I also said, or at least I meant to say, and I now do say that the principal factor of safety of a corporation is its earning power.

Q. Not its property?

A. Not its property, by all means not its property.

Q. Then what difference does it make what percentage of bonds you issue? Why limit yourself, for the purpose of safety, to one-half the value of your property in your bond issue; why not go ahead and issue ninety per cent.?

A. Because it is not so safe.

Q. You say the question of the value of the property has no relation to safety?

A. I beg your pardon. I do not think you will find any such evidence in there.

Commissioner Osborne—Possibly I cannot follow you.

Q. (By Mr. Wherry.) What did you say, Mr. Chamberlain?

A. I said, the earning power of a company is the principal factor of safety.

Q. But you do not exclude the value of its property as a factor of safety?

A. Certainly not, but I have not been discussing the value of the property. I have been discussing earning power.

Q. What bearing has the value of the property got on it?

A. It has a very important bearing, particularly in public utilities, because usually in public utilities, in those states that have regulation of public utilities, the amount that a company is allowed to earn is largely dependent on the estimate of the value of the property. You started to ask me a question which I have not yet answered.

Q. Will you please answer it?

A. You asked me if certain public utility bonds were not selling at a lower yield than eight per cent. and I said: "Yes, indeed." I started to explain that the reason for that was that the price of securities, whether public utility or otherwise, is dependent on a number of factors, the principal one being the safety of the investment, which in turn is determined largely by the earning power of a company, and also to an important extent by the value of its property. The price of a security is also very largely determined by the marketability of it, that is, the ability of an investor to resell it on short notice at any time he desires. Companies that are issuing bond issues of one million, two million or three million dollars total amount, have issues that are too small either to be listed on the principal stock exchange, the New York Stock Exchange, or ordinarily to have a market other than in the one house that sponsors the issue and sells it to its investors:

Q. So the lack of marketability would make them at a disadvantage, is that it?

A. Yes, sir; and at a greater disadvantage in my opinion, than really ought to be the case. In other words, I think the public looks too much to the marketability and is willing to pay too high a price for it.

Q. If the company was financing with sixty per cent. of bonds, then the stock would have to, in order to be saleable, would have to earn a larger amount than the bonds; would it or would it not?

A. You mean it would have to pay in dividends a larger amount than the bonds?

Q. I said, "earn." I was covering both the dividends and what they stored up as surplus; it all belongs to the stock.

A. I am afraid I do not understand your question.

Q. Will you please then continue your statement. You stated a company of that sort could finance by a sixty per cent: bond issue with reasonable safety. How would you issue the balance of it; what would that consist of and how much earnings would it require?

A. The balance would have to be some form or forms of junior security of which the principal are debentures or second mortgage bonds—really, we ought to reverse that, second mortgage bonds or debentures, preferred stock, common stock. The yield to the investor, on the junior securities, must of necessity be higher than that on the senior security, in order to dispose of the junior securities in the market.

Q. Well, a small issue like that might be advantageously dealt with in the form of stock for the balance, could it not?

A. Two classes of securities for a company of this size is all that really ought to be.

Q. How much would the stock, in order to be marketable, how much would that stock have to earn, what dividends it would have to pay and what it would have to set aside besides the dividends, for surplus?

A. The stock of the company should earn at least twelve per cent. to make a dividend, that would be even as much as the interest on the bonds, safe.

Q. In other words, you mean that would not be paid out in dividends but the earnings over and above the requirements of the bonds; another way of testing that would be by measuring it as fourteen per cent. of the stock?

A. Twelve per cent., I said.

Q. Twelve per cent.; I beg your pardon.

A. Twelve per cent., yes; that is what I mean.

Q. In other words, your net return is divided into two classes in the case we supposed here; eight per cent. and twelve per cent.?

A. No, Mr. Wherry; I did not mean that the stock would yield twelve per cent. to the investor.

Q. No, I understand that, but, of course, the surplus that is put back in the company belongs to the stockholder, whether he takes it out in the form of dividends or leaves it in the property?

A. Yes.

Commissioner Osborne—You mean the bonds would pay eight and the stock would earn twelve, but how much of the twelve they declared was a matter of discretion?

Witness—Yes.

Q. If your bonds were less in proportion than sixty per cent. the bond interest would be lower, wouldn't it?

A. Yes.

Q. But you would still have to have back of it available earnings to take care of it?

A. The earnings of a company should not be materially affected by the percentages of bonds to the total value of the property.

Q. In other words, you really can express that rate of return at one figure, no matter how you divide it; is that correct?

A. Yes.

Q. Would that be more or less than eight per cent. of the fair value of the property?

A. It would be more than eight per cent.

Q. What are the considerations that weigh with you in saying the company ought to earn more than eight per cent. on its fair value in order to be able to get money to invest in it, to flow into the business?

A. These: That I made a careful study of the return on fair valuation for another public utility in New Jersey in 1916, and I said at that time that the net return should be eight per cent.

Q. That was your conclusion from all the data that you studied then?

A. From all the data that I studied then, and subsequent events in the public utility field as a whole, have

not caused me to change my mind as to the correctness of that figure at that time. Now, the companies at the present time operate less advantageously than they did in 1916. Money costs them more and it is worth less when they get it. The general run, for illustration, of public utility bonds, the general average price of those bonds is very much less to-day than it was in 1916. I was well aware that in 1916 many public utilities were not earning eight per cent. on their fair valuation. I am sure I am correct in stating that the earnings of public utilities as a whole have fallen off since 1916.

Q. Are they in as good a relative position as an investment to-day as they were in 1916?

A. No, they are not.

Q. Why?

A. I beg your pardon.

Q. Why?

Commissioner Osborne—Because the costs have gone up facter than the rates.

Q. Is that the answer?

A. No, that is not the answer, because Mr. Wherry asked me the relative position.

Commissioner Osborne—I thought he asked why they were not in as advantageous a position to-day as they were then?

Witness—Because industrial companies can make their charges to suit their costs, but companies regulated by commissions, whether railroads or public utilities, of course, cannot do that without the permission of the Commission.

Q. It takes longer to adjust them to the change in conditions?

A. Yes.

Q. That condition is improving, however, isn't it?

A. It is improving.

Q. Did you take that into consideration when you said that a company ought to at least earn eight per cent.? That was in your opinion what it ought to earn in 1916?

A. Yes, that it ought to have earned it in 1916 and that events show that those companies that did not earn it got into difficulties. The companies as a whole are in a worse position now than in 1916; then surely they ought to have eight per cent. now.

Q. (By Commissioner Osborne.) How much do you think they ought to have now? You say they ought to have at least eight per cent. That is a minimum statement. What do you think they ought to have?

A. I have no opinion as to what they ought to have because I have made no study of it. That would mean a careful mathematical study lasting, as the other one did, through two or three weeks, and with able assistants.

Q. (By Mr. Wherry.) Your opinion is that they ought to have something more than they had then in order to induce capital to flow into the business?

Cross-examination, by Mr. Hague.

Q. Mr. Chamberlain, what public utility corporations are paying at this time eight per cent. on their bonds and twelve per cent. on the stock, that you can think of?

A. I could not answer your question.

Q. Do you know of any?

A. No, I do not.

Q. Have you heard of any?

A. I have not made any inquiries at all.

Q. You think it would require an eight per cent. return to sell bonds at the present time, do you, that the bonds would produce eight per cent?

A. I did not say that. I said that I personally, or at least I do say, that I personally would not consider a first mortgage bond of a small public utility company, earning materially less than eight per cent. on the fair value of the property, a safe investment for my clients.

Q. You might not consider it, but aren't there any of them that are being issued at a less price than that?

A. I cannot answer that question.

Q. Do you know of any?

A. I do not.

Q. You are familiar with the sale of bonds; you keep in touch with it generally?

A. Yes.

Q. Weren't there some bonds sold yesterday of the Bell Telephone Company?

A. Yes.

Q. And they were six per cent. bonds, weren't they?

A. Sixes.

Q. What did they sell at?

A. They sold at ninety-seven and a half, ninety-seven, I guess it was. Just a minute; they sold on a basis to yield six and one-quarter per cent.

Q. And they were way oversubscribed?

A. Probably five times oversubscribed.

Q. And they sold on the market immediately afterwards at ninety-nine, didn't they?

A. At least ninety-eight and a half.

Q. Do you value property for the purpose of placing bond issues?

A. No.

Q. Do you have men that do it under your supervision?

A. Yes.

Q. What basis do they use in arriving at the values of property?

A. We employ professional firms of appraisors, firms of professional appraisers, who take the present replacement value of the property and charge the proper amount of depreciation against that replacement value.

Q. Based on present prices?

A. You asked me to speak from my own experience. The last time we had this done for our own corporation was some four or five months ago, and the price taken, as I recall, was the average level of the last five years, but I am not sure, I am not positive.

Q. And what proportion of loan did you make on that basis?

A. This was an industrial company; the amount of the bond issue was $700,000.

Q. What company was it?

A. It is called the Abendroth Company of Port Chester, New York. I can tell you by calling my office what the net worth was. I am afraid I cannot trust to my recollection.

Q. They were making large earnings, weren't they?

A. Not this year, over a period of years they have made substantial earnings but not this year.

Q. Have you valued any public utility company, or been made under your supervision for you?

A. Not in my present corporation which was founded two and a half years ago.

Q. As a matter of fact in valuing public utility properties for the purpose of bond issue, aren't they using very little over the pre-war prices?

A. I am perfectly certain that the value that the banker really considers the value that should be used is distinctly above the war prices, but the banker always endeavors to get as small a bond issue as possible, so that the custom of the houses that are specializing in public utilities with their engineers at the present time, may be to try to get them to-day as near the pre-war value as the issuing company will stand for.

Commissioner Osborne—You just said above war prices. Do you mean that or do you mean above pre-war prices.

Mr. Wherry—He said pre-war, I think.

Witness—Pre-war prices, thank you.

Q. But very little above pre-war prices, isn't that so?

A. No. Very considerably above because the average banker believes—

Q. How much above?

A. I cannot answer that question.

Q. In percentage? You say very considerably. How much?

A. I cannot answer that question.

Q. Then how do you know it is considerably, if you cannot answer it?

A. Because I know that it is very much more than one or two per cent., for instance, above, which would be a very little above pre-war prices.

Q. But you would not say it was any more than that?

A. I should say it would be very much more than that.

Q. How much more?

A. I should say that the average banker would consider it fair to value a property at least half way between the average of the last three years prior to the war and the present time.

Q. Would your concern that you are with use that basis and issue sixty per cent. of the loan, a sixty per cent. loan on it?

A. I personally should not object to our firm doing it?

Q. Would your firm do it?

A. I control my firm.

Q. I beg your pardon.

A. I control my firm.

Q. Would your firm do it?

A. I don't know. I have associates; I would be guided by them largely.

Q. Would you consider it good financiering to do it?

A. Yes.

Q. Do you expect prices are coming down any lower?

A. Yes.

Q. In that case the equity would not be there, would it, sixty per cent.?

A. It depends on how long they go. I do not expect they will go lower this coming year. I expect they will go very materially higher this year, but they will go lower later, in my opinion.

Q. Do you consider from the financiering standpoint, it would be safe to go on a basis of that kind?

A. Sixty per cent.?

Q. Sixty per cent., using the prices as of the period that you say they were based upon.

A. Other things being equal, yes, provided the earnings were satisfactory.

Q. Have you studied the course of prices after other wars?

A. I have, but I am afraid that it has been so long since I studied the cost prices from that angle, that my testimony, my recollection, would be too poor to use at this testimony.

Q. Hasn't the general average gone below the pre-war prices after other wars?

A. I am afraid that a generalization of that sort is very unsafe, because war conditions create abnormal economic conditions and what happened after one war, I do recall, is not necessarily what happens after another war. For instance, after the Civil War, which ended in 1864, we did not have specie payment until 1871 or perhaps until 1874. Any factor like that is like to vitiate all generalizations.

Q. Then prices after the Civil War were lower than they were prior to the war, were they not?

A. I cannot say.

Mr. Wherry—How long after?

Mr. Hague—The period you speak of.

Mr. Wherry—1873 to 1878?

Mr. Hague—Yes.

Witness—I cannot say; I don't know.

Q. Isn't it a fact that the prices are falling much more rapidly after this war than they did after the Civil War and previous wars?

A. The commodity price fall in 1920 was more rapid, in my opinion, in my recollection, than any other price fall, any commodity price fall.

Q. Can you refer to any war where prices have not gone down to as low, if not lower, than the pre-war prices of that war?

A. I am not competent to testify. I have no recollection.

Q. Don't you take any of those facts into consideration when you are stating the market for issuing bonds, the conditions?

A. Yes.

Q. How much lower is the present call and time money than it was this time last year?

A. Well, it is averaging to be about one and three-quarters per cent. lower.

Q. Wasn't it eight per cent. last year?

A. It got as high as eight per cent. at some time.

Q. At this time?

A. I cannot say exactly at this time, but along in January, for instance, it was seven and a half.

Q. And it is about five and a half now, is it not?

A. Yes.

Q. And it has been down as low as four and a half?

A. Yes, I think it has been lower than that.

Q. Doesn't the price of money affect the price of bonds?

A. The price of money does affect the price of bonds.

Q. And are not bonds now increasing in price?

A. Yes.

Q. And due to that condition just spoken of?

A. Due to several conditions, of which that is one.

Q. How much lower is rediscounting for Federal Reserve than it was a year ago?

A. I cannot say what it was a year ago.

Q. As a matter of fact, isn't it very much lower now than it was a year ago?

A. I think what you mean by the federal rediscount rate is about one per cent. lower than it was a year ago.

Q. How much is it now?

A. I don't know what you refer to as the federal rediscount rate.

Q. Isn't it four and one-half per cent.?

A. If you mean the Richmond district, I believe it is five and a half per cent.

Q. The New York district?

A. I don't know what the New York district is.

Q. Isn't it four and one-half per cent.?

A. I don't know.

Q. Don't you follow that in your business?

A. Yes.

Q. How is it you do not know what it is in New York at the present time?

A. Rates of interest change.

Q. Don't you follow that?

Mr. Wherry—Let him answer, please.

Commissioner Osborne—How much longer do you expect to hold this witness because it is now considerably after four o'clock.

Mr. Hague—Not very much longer. Perhaps we better finish.

Commissioner Osborne—I thought if you could get through with him, all right; if you cannot, we will adjourn.

Mr. Hague—I am willing to stop now; we have some more questions here which might lead to some more.

Commissioner Osborne—Of course that is always true of every examination; every question leads to another.

Mr. Wherry—This is a witness I would like to finish with this afternoon on account of his business; he is taken from his business.

Mr. Hague—We are all taken from our business, Mr. Wherry.

Mr. Wherry—No; this is your business and mine.

Commissioner Osborne—You may as well go on if you think you can finish.

A. The last time I heard it was four and one-half per cent.

Q. What was it last year at this time?

A. I cannot tell you.

Q. How high has it been to your knowledge?

A. I cannot tell you; I don't know.

Q. Mr. Chamberlain, when you are arriving at the cost of a property for the purpose of making a bond issue, do you take into consideration going value; do you allow anything for it?

A. I see what you mean; excuse me.

Q. Intangibles; for the purpose of bonding.

A. No. We make no allowance for intangibles for the purpose of bonding. It is the common practice of

the street to make no allowance whatever; every circular that is issued will show that.

Q. So in the figures you have given it would not be necessary to have any return on going value?

A. The return on going value would not be the way the banker or investor would look at it when he was approaching the earning statement of the company.

Q. And the figures you have given did not take into consideration anything for going value.

A. I am trying to understand your question.

Q. The eight per cent. return did not include anything for going value; there was to be no eight per cent. on that.

A. That was physical property.

Q. I beg your pardon.

A. That was physical property, if that answers your question.

Q. You have testified that you need two and a half times the bond interest on earnings; what do you mean by earnings as earnings?

A. The earnings applicable to fixed charges.

Q. The amount between gross earnings and operating expenses?

A. Whatever ordinarily is deducted in a given company between its gross income and the sum that is available for the payment of interest on its obligations, including what you stated.

Q. (By Mr. Wherry.) Including sinking fund, depreciation?

A. Including all depreciation.

Q. (By Mr. Hague.) Isn't the sinking fund included in the earnings?

A. I don't know what you mean by that question. I don't know exactly what you mean by that question.

Commissioner Osborne—Can you reframe your question?

Witness—Sinking funds have to be paid out of earnings.

Commissioner Osborne—Is that what you mean? Are not sinking funds paid from earnings, created from earnings?

Mr. Hague—Yes.

Commissioner Osborne—You say "yes."

Witness—Sinking funds have to be paid out of earnings.

Mr. Wherry—Are you through?

Mr. Hague—There are further questions.

Commissioner Osborne—If there are further questions, ask them.

Mr. Hague—I have not the questions prepared and I wanted to go over them with Mr. Fuller.

Commissioner Osborne—For this witness?

Mr. Hague—Yes, if I could.

Commissioner Osborne—I think there must be a limit to this sort of thing. I think we would be carrying this further questioning to some other day too far. This case will never be finished this way. A witness like this ought to be finished on first examination.

Redirect examination, by Mr. Wherry.

Q. If the Bell Telephone bonds sold on a 6.25 basis, would that make it easier for the Elizabethtown Company to sell its bonds?

A. By the creation of a bullish sentiment in the community, that that inspires, it helps to sell all securities somewhat.

Q. Would you expect this company to be able to sell its bonds on a six and one-quarter basis if the Bell Telephone bonds could sell on that basis?

A. No, sir.

Q. Why not?

A. The Bell Telephone Company in the first place is the premier public utility security of the United States. In the second place, it is brought out under the sponsorship of the leading banking house of the United States. In the third place, there are fifty million dollars of them

so its market will be as broad as the market for the average railroad stock. Those are the principal reasons.

Q. Would the fact that call and time money were lower make much material difference on the price which you have to pay for your bonds?

A. There is very little relation between a change of one or two per cent. in the interest rate of call money, daily average per month, and the price that can be obtained for bonds. Call money rates are exceedingly erratic, running from one and one-half to 140 per cent., and are subject to speculative influences.

Q. Your whole testimony was based not on the speculative, but on the investment point of view.

A. Investment considerations.

Q. (By Mr. Hague.) Isn't it a fact that there is not a very good market for utility securities because of the fact that the public does not know the rate will be maintained?

A. I don't know how to answer that question.

Commissioner Osborne—Isn't just the reverse of that true? The investor is afraid the rate will be maintained, therefore, the utility would not be able to earn what they would like?

Witness—That is the answer, but I do not know how to answer your direct question by saying that.

Commissioner Osborne—I always thought their complaint was they could not change the rate fast enough to meet the demands.

Mr. Wherry—You mean the net earnings may not be maintained; is that what you mean?

Mr. Hague—The earnings of the corporation, yes.

Mr. Wherry—I guess we will all admit that.

Commissioner Osborne—Now, how near are we through, gentlemen?

Mr. Wherry—We have some few things from Mr. Hill to produce, and then I am through.

Mr. Hague—Are you going to prove your real estate value on your other property?

Mr. Wherry—Yes; I am going to bring that real estate man here unless he dies in the meantime.

Commissioner Osborne—The real estate appraiser?

Mr. Wherry—The real estate appraisor who appraised these rights of way. He is very ill; he was to be here to-day.

Commissioner Osborne—Can you finish in one more day, do you think?

Mr. Hague—Are you talking to Mr. Wherry?

Commissioner Osborne—Both of you. What do you want to put on?

Mr. Hague—I do not know whether I will put on two or three witnesses. I am satisfied I will not be able to finish in a day; I don't know how long Mr. Wherry will take.

Mr. Wherry—You mean the real estate man? You want to cross-examine him on the real estate.

Mr. Hague—Mr. Hill.

Mr. Wherry—Mr. Hill, he is pretty near through; he is through except for very brief redirect.

Commissioner Osborne—How would one week from to-day be, Wednesday the 23d?

Mr. Hague—Mr. Fuller is engaged on the 21st, 22d and 23d in Kingston on a condemnation case.

Commissioner Osborne—Have you any witness you can put on that will not require the presence of Mr. Fuller as your adviser?

Mr. Wherry—Apparently not.

Mr. Hague—As far as the real estate man is concerned, I could, but I do not believe this testimony would be worth while taking alone.

Commissioner Osborne—How long will it take?

Mr. Wherry—It is just exactly the same thing as was done with Mr. Ryan to-day. Mr. Hague

wants to examine him with regard to his valuation as to rights of way; what the basis of it was. If there is anything under water that is not used and useful and only worth $450, I would exclude it.

Mr. Hague—As a matter of fact, you produce an appraisal here and there is no proof. It has been offered in evidence but it has not been proved by anybody. I think according to the rules of evidence it is up to you to prove these items and it is necessary to produce this witness here to prove these items.

Mr. Wherry—You are within your rights, only if you did know of any parcel of that sort I am making an offer. I would like to shorten it.

Commissioner Osborne—We might give you part of Friday, the 25th, at least the morning of that day and go as far as you can.

(Informal discussion as to adjournment.)

Mr. Hague—Regardless of whether the rate goes into effect or not, I feel we ought to have a reasonable time to present our case.

Commissioner Osborne—You have a reasonable time. You make complaint of not having reasonable time. This is not the only case we have to consider.

Mr. Hague—That is very true, but in previous rate cases we have had, this time it has speeded along much faster than any of the others.

Commissioner Osborne—You cannot use the 23d and you do not want to use the 25th.

Mr. Hague—It seems to me a part of the day probably would not be satisfactory, although I am perfectly willing to go on.

Commissioner Osborne—How about the 30th?

Mr. Wherry—I could finish with Mr. Hill, my redirect of Mr. Hill, on the 25th.

Mr. Hague—If we can finish up with Mr. Wherry's part of the case on that day, I am perfectly willing to come here that day.

Commissioner Osborne—I will not promise to give you the whole day. We can probably give you half a day.

Mr. Hague—I imagine we can finish up with Mr. Wherry's case.

Commissioner Osborne—Or, if you would rather, we can go over to the 30th and you can probably have the whole day then.

(Informal discussion as to adjournment.)

Commissioner Osborne—We might take the thirtieth and possibly, if we cannot finish that day, go on the next day.

Mr. Wherry—Could we take part of the 25th, the 30th and the 1st, and then we will finish the case.

Commissioner Osborne—Yes.

Mr. Wherry—We will bring the real estate man on the 25th, finish him on the 25th.

Mr. Hague—And then go on with our case on the 30th?

Mr. Wherry—Yes; and the 1st.

Commissioner Osborne—You will bring Mr. Hill and the real estate man on the 25th?

Mr. Hague—I think that will be agreeable. Then there are two days set down for our going on with the direct case, the 30th and the 1st?

Commissioner Osborne—We will carry over until the next day, if necessary.

(Adjourned until Friday, November 25th, Kinney Building, Newark, N. J.; then to be adjourned to November 30th and December 1st, 1921, at Kinney Building, Newark, N. J.)

BOARD OF PUBLIC UTILITY COMMISSIONERS,
NEWARK, N. J., Wednesday, November 30th, 1921.

Elizabethtown Water Company, Watchung Water Company, Piscataway Water Company and Raritan Township Water Company. Increased Rates.

Before Commissioner J. J. Treacy, Esq., President.
L. Edward Herrmann, Esq., Counsel.
P. Betts, Esq., Chief Inspector.
For the Petitioners appear W. M. Wherry, Esq., and Thomas H. Wight, Esq.
For the City of Elizabeth appears Joseph T. Hague, Esq.
For the Borough of Dunellen and Piscataway Township appears R. P. F. Von Minden, Esq.

George R. Lyman, sworn on behalf of Petitioner.
Direct examination, by Mr. Wight.

Q. Mr. Lyman, are you the George R. Lyman who furnished the appraisals of rights of way and other property?

A. I am.

Q. What is your business?

A. Real estate and insurance.

Q. Where are you located in business?

A. 139 North Avenue, Plainfield.

Q. How long have you been engaged in the real estate business?

A. Sixteen years.

Q. Were you a part of that time a member of the firm of Charles H. Lyman & Sons?

A. Charles H. Lyman & Sons; yes, sir.

Q. And that Charles H. Lyman, a member of that firm, had been engaged in business for many years?

A. About thirty-five or forty years.

Q. Have you in your conduct of the real estate business bought and sold property?

A. Yes.

Q. Including rights of way?

A. Yes, sir.

Q. Is it a fact that your firm actually participated in the purchase of certain of the rights of way which you have appraised now?

A. Yes, sir.

Q. And had you personally something to do with its purchase?

A. Yes, sir.

Q. You have bought and sold farm property in Union County and surrounding counties?

A. Yes, sir.

Q. As well as business properties?

A. Yes, sir.

Q. Now, Mr. Lyman, will you turn to the appraisal which you made up of the rights of way at or near the Trenley station?

Mr. Hague—Where is that?

Mr. Wight—That is No. 43 to No. 50.

Q. Mr. Lyman, take up No. 43. These rights of way are listed as No. 43 to No. 50. Are those values placed opposite those respective rights of way, in your opinion, the fair and reasonable value thereof?

A. From a real estate standpoint, yes.

Q. Will you explain what factors you took into consideration in fixing those values?

A. Well, I think down there around the Grasselli Plant that it is very valuable property by the acre, but the fact of the right of way being narrow and used for the purpose it is, it lessens the value of the other property, and I took off a certain percentage from the actual value per acre and based it on a running foot. The land is worth in there around $3,500 to $4,000 an acre, and I took off at least fifty per cent. and based it on how much that would figure out for the length per running foot.

Q. Tell me what there is about the property itself there.

A. Well, it has that value because it is connecting the two railroads and it would be valuable to anybody who wanted sidings, and so forth, on the railroad, and it is valuable because it is on two instead of one.

Q. You are speaking of No. 43 and No. 44?

A. Yes, where it connects there, all the way through from railroad to railroad.

Q. Now then, as to the others, No. 46 through to No. 48, including No. 48?

A. That goes down there by the American Felt, doesn't it?

Q. Would you like to refer to the map?

A. Yes.

Q. (Handing witness map.) Turn to diagram No. 23 and No. 24.

A. I have it; No. 46 to No. 48?

Q. Yes.

A. I appraised that at a dollar a foot less, on account of being only along one railroad and being narrow, and it lessens the value of the property, because there is quite a stretch of ground in between that right of way and the water, and I didn't figure it was as valuable as the other, connecting two railroads.

Q. No. 46 and No. 48 at three dollars per running foot?

A. Three dollars per running foot.

Q. Turn to No. 49, diagram No. 24.

A. I valued that a dollar a running foot because it is only ten feet wide, but it faces on two streets and might be used for some other purpose, but it hasn't the value that it would have if it had more frontage.

Q. Was there any other consideration there that you took into account?

A. I simply took into consideration that it had some value and it was a hundred and fifty feet long and it was fronting on two streets; if it had more depth it might be worth a little more.

Q. Was it more or less remote from the railroad than No. 43 and No. 48?

A. This isn't near the railroad.

Q. Turn to No. 50, diagram No. 25; how did you arrive at the valuation?

A. I valued that at seventy-five cents a running foot; it was a dwelling house community; I couldn't appraise it by the front foot because there was only twenty-five feet depth.

Q. Turn to diagram No. 12, items No. 51 and No. 52. Now, while you are looking at that, are the values for No. 51 to No. 55 which you have given fair and reasonable values for those properties, in your opinion?

A. Very fair.

Q. Start with No. 51.

A. No. 51 fronts on a street and goes along the water; it is 1150 feet deep; I appraised that along the same lines as No. 49.

Q. No. 52.

A. No. 52, I appraised that on the same basis; that fronts on a street also.

Q. No. 53.

A. No. 53, I appraised at fifty dollars a foot.

Q. (By Mr. Hague.) Did I understand you to say that No. 52 fronted on a street?

A. Wait a minute—no, it don't face on any street; it is 104 feet deep; it connects with No. 53. No. 53 is 450 feet deep and I appraised it at fifty dollars a foot along Morris Avenue; it is near Elizabeth, a dwelling house community and along a trolley; that particular piece fronts on two streets and I appraised two sides, making it fifty dollars a foot.

Q. (By Mr. Wight,) Where these rights of way connect, one continuous connection, have you considered the fact that they do so connect in arriving at your values?

A. Absolutely.

Q. No. 54 and No. 55, take those up and explain them.

A. No. 54 and No. 55?

Q. Yes, you will find them on diagram No. 26. Do you find those?

A. Yes.

Q. Explain your values.

A. The same reason for those as on No. 51 and No. 52. They have some value because they front on streets; of course, it is narrow, but they have a good length and could be used for some other purpose, from a real estate standpoint, than what they are used for now.

Q. Take up No. 56 and No. 57 on diagrams No. 28 and No. 29; that is the Watchung Pumping Station. You will find No. 56 on diagram No. 28, I think.

A. Yes. I appraised that at fifty cents a foot; it required a great deal of filling in, about two-thirds of the land is under water, but if it was filled in it could be used for building purposes, and I appraised it very low to allow for that filling in, if anybody wanted to use it for that.

Q. Would it be possible, in your opinion, to purchase those rights of way for less than fifty cents a foot?

A. No, I don't think it would be possible.

Q. Turn to No. 76, diagram No. 28.

A. That is a block acreage, over 67 acres, and the parcel has a great deal of woodland on it and has road frontage and is worth at least two hundred dollars an acre.

Q. Have you bought and sold land similarly situated?

A. Yes, and we have land listed in our office at more per acre, but that includes buildings.

Q. Is it all woodland, or only a part?

A. Well, as you go up the mountain it rises right on up back of the pumping station; a great part of it is woodland as you get up near the mountain road.

Q. Turn to No. 77 on diagram No. 28.

A. I appraised at just half the amount, because about two-thirds of that is under water.

Q. Half of what?

A. Half of the acreage of the good part, running up the mountain.

Q. What figure did you appraise it at?

A. One hundred dollars an acre.

Q. For what reasons?

A. Because about two-thirds of it is under water, but if filled in could be used for buildings.

Q. And the part under water is valuable for use now?

A. It would have to be filled in to bring it up to the road; it sets down quite a ways from the road. But the other part, No. 76, is very high and could be used for rights of way, for building purposes; and the woodland is worth some money.

Q. Turn to No. 63 on diagram No. 22.

A. All this property goes along the railroad right near Bound Brook and I base that at two hundred dollars an acre.

Q. Is that from No. 63 to No. 68, inclusive?

A. That is No. 63 to No. 68.

Q. Continue.

A. I valued that at two hundred dollars an acre. It needs considerable filling in; about two-thirds of it is low and swampy, except that which is along the railroad, but, if filled in, would make good factory sites. If factories should go out there, the railroad might put a station near Bound Brook—or if they wouldn't put a station there, they might put a shed there, or something like that, like down at Rahway, and give it a good value. If it wasn't for the fact of it being low and not accessible to the street, it would be worth at least one thousand dollars an acre, and I thought two hundred dollars a very fair figure.

Q. In your values of these properties, No. 63 to No. 68, you have taken into consideration the high land with the low land, in making your values?

A. Yes, and the fact of it being along the railroad.

Q. All of these values that you have given, are, in your opinion, very fair?

A. Very fair, indeed, and in a great many instances it cost the water company a good deal more than I put these appraisals in as, but I took them from a real estate standpoint and what they could be sold for, in my opinion.

Q. No. 69.

A. I based that at seventy-five dollars a foot; it fronts on a street that leads to the main street of Bound Brook. I have sold similar property in Plainfield, and taking into consideration the difference in the sizes of the two towns, and so forth, I think that is a very fair price for it.

Q. (By Mr. Hague.) How much a front foot?

A. Seventy-five dollars a foot.

Q. (By Mr. Wight.) Have you also in the conduct of your real estate business, made inquiries as to values of property in and about this property?

A. Yes, there were several made in Elizabeth and several in Bound Brook.

Mr. Hague—I object.

Commissioner Treacy—What is the question?

(Question and answer read.)

Mr. Hague—He is trying to testify as to values of property in Bound Brook from conversations he has had with other real estate men in Bound Brook; he hasn't sold any land or bought any land there; he has had conversations with other real estate men and formed his opinion of the values of those properties from those conversations.

Commissioner Treacy—You did not buy or sell real estate in town, did you?

Witness—We bought and sold real estate in Somerset County, Union County and Middlesex County, but this is a front foot basis near the town, and I was only verifying my figures which turned out to be correct, in the opinion of other real estate men in the town.

Commissioner Treacy—Did you buy and sell in this particular town?

Witness—No, I never have.

Commissioner Treacy—Well, the objection is sustained.

Mr. Hague—I move the answer be stricken out.

Q. (By Mr. Wight.) You did buy and sell in the county?

A. Yes.

Q. And you bought and sold in places situated similar to this?

A. Very similar.

Q. And your values given are based on those facts?

A. Yes.

Q. And your information from the other real estate agents was simply information which you got after you made your valuation?

A. Absolutely; the figures were all put in before I asked anybody at all.

Q. Turn to diagram No. 22, Somerville Water Company; No. 41 and 42.

A. I base that on the running foot—

Mr. Hague—Just a second. May I ask this witness as to qualifying him for answering this question that has been propounded?

Commissioner Treacy—Yes.

Q. (By Mr. Hague.) Is this parcel No. 41 and No. 42 in the borough of Bound Brook?

A. Yes, along the railroad.

Q. And are parcels Nos. 63, 64, 65, 66, 67, 68 and 69 all in the borough of Bound Brook?

A. All of them, yes.

Mr. Hague—If your Honor please, he has testified that he has never bought or sold land in that borough, and I move that all testimony in reference to values of properties in that borough be stricken out.

Commissioner Treacy—That objection is a little late, Mr. Hague; the testimony is in now.

Mr. Hague—But the witness did not bring it out until the question as to this parcel No. 69.

Commissioner Treacy—I know, but you had the chance to interrupt him before just the same as you are doing now.

Mr. Hague—He has testified that he has bought and sold land in these various counties.

Commissioner Treacy—The testimony will be allowed to stand for what it may be worth, in view of the information which you have brought out as to his lack of information concerning the actual sales or his lack of actual experience in sales himself.

Mr. Hague—Then, your Honor, he has not yet answered the question as to the value of parcels No. 41 and No. 42, and I object to him answering that question.

Mr. Wight—What is that?

Mr. Hague—As to him testifying to the value of parcels No. 41 and No. 42, which is now the question before the Court. I object to that question on the ground that this witness is not qualified to testify to it.

Commissioner Treacy—The witness has never had any experience in making sales, as I understand it, in this locality; he has made sales somewhere in the county.

Mr. Wherry—In the county and up near Somerville, in the adjacent territory.

Commissioner Treacy—How far is Somervile from Bound Brook?

Mr. Hague—Three miles—four miles.

Commissioner Treacy—I don't think we will allow testimony from this witness as to values of property in Bound Brook.

Q. (By Mr. Wight.) How far are these parcels No. 41 and No. 42 from properties which you have sold?

A. I should say about a couple of miles.

Q. Was the property which you did sell similarly situated?

A. If I remember correctly, I think that our office had something to do with buying some of this property, but it is so far back I can't just recall it now.

Q. This property that you speak of as within a few miles, was its location quite similar to that of parcels No. 41 and No. 42?

A. Similar as to the acreage, but better ground.

Q. Have these values which you put on these two properties, have they taken into consideration these other sales which you have made?

A. Yes, and from the fact that it is situated between two railroads and not being very accessible to the street, I took a large percentage off, and also because of its being under water, and so forth, and having to be filled in.

Q. What, in your opinion, are No. 41 and No. 42 reasonably worth?

Mr. Hague—I object.

Commissioner Treacy—Objection sustained.

Q. Turn to Bound Brook, diagram No. 6, parcels—

Commissioner Treacy—Is this another Bound Brook property now, Mr. Wight?

Mr. Wight—Yes.

Commissioner Treacy—Then there is no use pursuing this examination as to Bound Brook property with this witness. The witness has no experience in the buying or selling of property in that municipality.

Witness—I have, your Honor, as I say, as far as the acreage is concerned, but not the business part of Bound Brook. That price there of seventy-five dollars a foot—we haven't sold any business property in Bound Brook, but we have sold business property in Somerville.

Commissioner Treacy—Well, you told us all that.

Witness—And I am simply basing it on the fact—simply a case of comparing it with other situations that we have sold.

Mr. Hague—It is a comparison between two different localities.

Commissioner Treacy—Two different cities several miles apart.

Mr. Wherry—He has bought and sold acreage in Bound Brook and in that vicinity.

Commissioner Treacy—Is this acreage?

Mr. Wherry—Yes, this is acreage, valued on the acreage basis, but he hasn't bought and sold business property in Bound Brook on the front-foot basis.

Commissioner Treacy—What is he now testifying to, business property?

Mr. Wherry—No, acreage; No. 41 and No. 42 is acreage, and some of this is acreage.

Mr. Hague—Have you the map before you, your Honor?

Commissioner Treacy—No, I haven't.

Mr. Hague—If you will take this map then (handing Commissioner map).

Commissioner Treacy—What sales of acreage property did you make in Bound Brook?

Witness—Probably one mile or two miles from Bound Brook.

Commissioner Treacy—Oh, a mile or two miles from Bound Brook.

Witness—Surely.

Mr. Hague—This ground which they call acreage adjoins the property that they are putting in at seventy-five dollars a front foot; I don't know how they get the acreage in front feet.

Witness—Well, it is within about five minutes walk of the main business section of Bound Brook.

Mr. Hague—So is the right of way which you are attempting to testify to.

Witness—I understand that, but that has got to be appraised by the acre; that has no front foot value.

Q. (By Mr. Wight.) Turn again to parcels No. 1 and No. 2 of diagram No. 6. Before you answer as to the values there, tell me whether or not you have bought or sold property in the locality of those properties?

A. What is the number?

Q. No. 1 and No. 2 on diagram No. 6. Take No. 2, diagram No. 6.

A. Yes, we have bought and sold property and have it listed in the office around South Plainfield.

Q. Right near where all these parcels, No. 2, No. 3, No. 4 and No. 5 are?

A. Yes.

Q. And how about No. 6, No. 7, No. 8, No. 9, No. 10, have you sold parcels near them?

A. Yes.

Q. You valued parcels No. 2, No. 3, No. 4, No. 5, at three dollars per running foot?

A. Yes.

Q. Is that, in your opinion, a fair and reasonable value of those parcels?

A. What numbers were those?

Mr. Hague—I didn't hear the witness testify as to whether he had valued the property shown on No. 1.

Mr. Wight—I didn't ask him about that; I told him to look and tell me whether he had bought and sold property in the vicinity of these numbers I am now bringing out, and he says yes.

Mr. Hague—All right.

Witness—I based that on three dollars a running foot, being a manufacturing center; the Spicer Manufacturing Company is there; they employ seven thousand people.

Mr. Hague—May I interrupt again and ask the witness a few questions, as to qualifying on that point?

Commissioner Treacy—All right.

Q. (By Mr. Hague.) Where did you buy and sell land in South Plainfield?

A. We bought this particular piece that we are talking about.

Q. What other land did you buy?

A. I have sold ninety-five acres within a half or three-quarters of a mile from there, within seven or eight months.

Q. What other?

A. I am selling lots there all the time.

Q. Whereabouts, in South Plainfield?

A. Between South Plainfield and Plainfield, on Park Avenue.

Q. In Union County or Middlesex County?

A. Both, Union and Middlesex Counties.

Q. Right on the line of both counties, property that runs in both counties?

A. Yes.

Q. How far is that from this property?

A. Those particular lots, I should say, are perhaps a half to three-quarters of a mile.

Q. Where was this ninety-five acres that you sold?

A. That is about a half-mile from Oak Tree, which is in the section that you spoke about up here.

Q. In Piscataway Township?

A. Yes, in Piscataway Township.

Mr. Hague—All right.

Q. (By Mr. Wight.) Continue, Mr. Lyman. You have just told us you valued No. 2, No. 3, No. 4 and No. 5 at three dollars a running foot; just give us the reasons for that value.

A. Why, as I said, at South Plainfield there is quite a manufacturing center; they have their own bank; the Spicer Manufacturing Plant is there, making universal joints; they have a big hotel there; and I think three dollars a very fair figure.

Q. Take numbers 6, 7, 8, 9 and 10, which you valued at two dollars per running foot.

A. Numbers 6, 7, 8, 9 and 10, I made those at two dollars per foot, being further away from town, being a connecting link between that and the other property which I valued at three dollars per foot.

Q. Parcel No. 1, on that same diagram No. 6; have you bought and sold property near that?

A. No, parcel No. 1 is at Lincoln and I appraised that by the front foot, and we haven't sold any property there by the front foot.

Q. Turn to diagram No. 6, parcels No. 11, No. 12 and No. 13—consider all of them from No. 11 down through to No. 18.

A. I appraised those on the same basis as I did numbers 6, 7 and 9; they are connecting links and a portion of it is near Oak Tree Station, which is a very small town and isn't nearly as progressive as the ground I appraised up here at Plainfield.

Q. (By Mr. Hague.) Is there any town there at all, Mr. Lyman?

A. Just a station.

Q. You said a small town.

A. Yes, a small town, it has a railroad station and a lot of farms, and so forth, that go down to the railroad; we have got property listed in the office right around that particular point.

Q. (By Mr. Wight.) The value you placed on these parcels, numbers 11 to 18, are fair and reasonable values, in your opinion?

A. Very fair indeed, and in a great many instances they cost a great deal more than I fixed my appraisal at.

Q. Turn to numbers 19, 20, 21, 22, 23, 24 and 25 on diagram No. 6.

A. Which one is that?

Q. Diagram No. 6, parcels 19 to 25, inclusive.

A. 19 to 25, I appraised that at one dollar a foot.

Q. Were those values that you placed on those, in your opinion, fair and reasonable values?

A. Very fair, indeed. They are not near any railroad station, but they have frontages on streets and the main road leading from Plainfield to Rahway, and I figured one dollar a running foot for the whole business very fair.

Mr. Wight—That is all.

Cross-examination, by Mr. Hague.

Q. What was the value you put on parcels 11 to 18, Mr. Lyman, on diagram No. 6; what was the value per running foot you put on those?

A. Two dollars per running foot.

Q. How did you arrive at the value of two dollars per running foot for 11 to 18 and one dollar a running foot from 19 to 25?

A. Because, from 11 to 18, part of that is on the railroad and they all connect.

Q. Well, 17 to 24 connects, doesn't it; 25 connects?

A. No, it don't connect with 25; it is across the street.

Q. Isn't it continuous as you cross the street?

A. No, across the street; it is the Plainfield road, leading from Plainfield to Rahway; the street comes in between.

Q. 17 to 24 connect?

A. Yes, that is all at two dollars per running foot.

Q. And 2 to 13 connects, and you think that is worth two dollars per running foot because it is along the railroad?

A. Absolutely.

Q. Is that your only reason for it?

A. The reason is that the property could be sold to anybody who wanted a siding, or anything of that kind, and where it wasn't along the railroad it wouldn't have within half the value.

Q. There are no sidings along there at the present time, are there, in that vicinity?

A. Well, there are sidings—

Q. I mean private sidings.

A. No, no private sidings.

Q. There are miles of territory between South Plainfield and the next station east where there are no factories; it is all farm land, isn't it?

A. A great part of it, yes.

Q. So there are no factories there and consequently no sidings required at this time?

A. I figured at South Plainfield, in the manufacturing district of the town, three dollars a running foot; this was out and not along the railroad, and wouldn't have as much value, so I appraised it at one-third.

Q. It is nearly a mile from the Spicer Factory to this property, to this right of way, No. 13, isn't it?

A. Some of it is right there in the part that connects.

Q. What other factories are there in South Plainfield that have sidings, except the Spicer Factory?

A. I don't recall at the present time.

Q. There aren't any, are there?

A. I can't say; there may not be.

Q. And this property is nearly a mile from there isn't it?

A. Some of it is situated right in South Plainfied and connects all the way up to Oak Tree, the right of way.

Q. When you speak of South Plainfield, what do you mean? There is no locality or municipality called South Plainfield, is there?

A. Surely, they have their own bank.

Q. Is there any municipal government of South Plainfield, or is it Piscataway Township?

A. It is Piscataway Township.

Q. There is no village or town of South Plainfield having a corporate existence, is there?

Commissioner Treacy—Well, there is a place know as South Plainfield on the Lehigh Valley Railroad, because I have been there myself.

Witness—Yes, that is correct.

Mr. Hague—It is Piscataway Township though; it has no municipal existence.

Commissioner Treacy—Probably a hundred or a hundred and fifty houses there.

Witness—Yes.

Q. Did I understand you to say that parts of these rightts of way were purchased by you for the Water Company?

A. Yes, the office.

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Q. What did you pay for them?

A. I don't recall now.

Q. Do you recall what you paid for any of them?

A. No.

Q. When were they purchased?

A. Well, I recall the last one was purchased about four or five years ago, at Oak Tree.

Q. Have you purchased any for rights of way since that time?

A. No, not for water companies.

Q. Have you purchased any property in Piscataway Township since that time, or sold or bought any property?

A. We have, in Middlesex County.

Q. In Piscataway, since those rights of way?

A. Yes.

Q. How many sales have you been connected with in Piscataway Township since the purchase of those rights of way?

A. I should say four or five.

Q. Have you the map there?

A. Yes.

Q. Turn to diagram No. 23; where is that property located?

Mr. Wight—What is that number?

Mr. Hague—Diagram No. 23, parcels No. 43 to No. 48.

A. Trenley Station.

Q. In what municipality is it located?

A. I suppose it is in the Borough of Elizabeth, right near Elizabeth.

Q. You suppose it is; do you know where it is?

A. I have been on the ground.

Q. What municipality is it in?

A. I don't know what municipality it is in; I presume it would be Elizabeth.

Q. What lands did you ever sell there?

A. I haven't sold any in there.

Q. Did you go down and inspect this land?

A. Yes, I have been all over it.
Q. What was the character of the land?
A. Very good.
Q. Was it salt meadow or was it upland?
A. It was as good as any factory land down there.
Q. Was it salt meadow or was it upland?
A. Of course, it was low, down from the railroad, but it wasn't wet or anything of that kind.
Q. Do you know salt meadow when you see it?
A. Yes.
Q. And you went down and examined this land?
A. Yes.
Q. You mentioned two railroads there?
A. Yes.
Q. What is the one on the top part of the sheet?
A. The Central Railroad.
Q. What Central Railroad?
A. The main railroad of the Central.
Q. Running where?
A. Running from—no, let me see now, wait a minute—that is the railroad that runs, I think, through Carteret and through all that manufacturing center; it isn't the main railroad of the Central.
Q. The one at the top isn't?
A. No.
Q. Let me refresh your memory. Isn't it the Long Branch Railroad of the Central Railroad running down to the Seashore?
A. It might be.
Q. You don't know whether it is or not, Mr. Lyman?
A. I don't know what railroad it is.
Q. You are not very familiar with that territory, are you?
A. We never sold any property there.
Q. You never bought or sold any land there?
A. No, sir.

Mr. Hague—Then I move that the witness' testimony as to that be stricken out.

Commissioner Treacy—Where is this?

A. This is in Linden Township.

Commissioner Treacy—We will allow the testimony to stand for what it may be worth.

Q. You have no knowledge of the values of property there from any sales, Mr. Lyman?

A. No sales, no sir.

Q. And you are only basing it on your general knowledge as a real estate man, located in Plainfield?

A. Yes, and buying similar property around Plainfield.

Q. Any salt meadow around Plainfield?

A. No, sir.

Q. Any manufacturing plants around Plainfield similar to the Standard Oil Company and the Grasselli Chemical Company?

A. No, none such as that; there are lots of factories around there, but not on that kind of land.

Q. Turn to diagram No. 12.

Mr. Wight—What is that, Mr. Hague?

Mr. Hague—Diagram No. 12, parcels numbers 51, 52 and 53.

Q. Where have you sold land in the City of Elizabeth?

A. I haven't sold any.

Q. Never sold any?

A. No, sir.

Q. Then you don't know what land is selling for on Orchard Street, Irvington Avenue or Parker Road, do you?

A. Only after making my appraisals and comparing them with real estate men, calling me up from time to time and I doing the same.

Q. After conversations with some other real estate men?

A. After I have put a value on it, its condition, and so forth, as I saw it.

Q. Did you go over this land?

A. Yes.

Q. And you put a value of fifty odd dollars a foot on parcel No. 53?

A. Yes.
Q. Fronting on Morris Avenue?
A. Yes, sir.
Q. Did you go over that land?
A. Yes.
Q. And how wide is that right of way there?
A. I think is it twenty-five foot front.
Q. (By Commissioner Treacy.) Where is your office located?
A. In Plainfield.
Q. And you are valuing land in Elizabeth, although you have never bought or sold any there?
A. No, I didn't.
Q. (By Mr. Hague.) Did you view this land?
A. Yes.
Q. View this particular piece?
A. Yes.
Q. Have you got it in your head?
A. Yes.
Q. There is a three-story brick building right up to the river, there, isn't there, on Morris Avenue?
A. The trolley goes along there.
Q. I know the trolley goes along there. Isn't there a three-story red brick building jutting up to the creek there?
A. Not on this No. 53; it faces on both sides of Morris Avenue.
Q. Isn't this in the bed of the Elizabeth River, this No. 43.
A. No, it is on Morris Avenue ,on the trolley that goes from Elizabeth to Morristown.
Q. As a matter of fact, isn't there a building up to the very edge of the Elizabeth River, a three-story brick building on the east side of Morris Avenue?
A. Not to my knowledge, not on this particular territory.
Q. You don't know the territory then. You value the parcel along the Elizabeth River from Orchard Street to Parker Road at $1150?

A. Where is it?

Q. That is No. 51.

A. Yes.

Q. Did you go there with Mr. Ryan to value the Elizabeth property?

A. No, I went alone.

Q. Don't you know that Mr. Ryan included this particular piece in the valuation of the Irvington Avenue Reservoir, this No. 51.

A. No. I didn't; it was given to me on that slip; that is what I went by, that slip right there (indicating).

Q. Turn to parcel No. 26, diagram No. 26, parcels No. 54 and No. 55; did you put a valuation on that?

A. Yes.

Q. Did you walk down over the property?

A. Yes.

Q. As you walked down over the parcels shown as No. 54, did you find it was a public highway open for traffic, the part that is shown South Fifth Street?

A. I don't recall that piece so very well; it is about fifteen months since I have looked at it.

Q. Isn't there a bridge across the Elizabeth River at that point?

A. There may be; I don't remember.

Q. And as you walked down Fifth Street, didn't you see that you were valuing it in the center of a public highway?

A. I valued it along the same lines as the rest of the property.

Q. Did you locate it as shown on that map in the center of the road known as South Fifth Street, when you went down on that land?

A. As near as I could find the land, from the diagram I had.

Q. Doesn't it show on the diagram put in that this parcel No. 51 is practically in the center of the street known as South Fifth Street?

A. No, the diagram that I have—

Q. The diagram that you have before you, is it shown as running down the center of the street known as South

Fifth Street? I am calling your attention to the map that you have before you.

A. I understand that, but I want to see where I found it.

Q. I see.

A. Numbers 54 and 55, I base that at one dollar a foot, from the fact of its being Elizabeth, and so forth, but of course, if it had more frontage, and so forth, it would be worth a great deal more.

Q. Did you, in going over it, see that it was located in what purports to be the center of the public street?

A. Well, as near as I could make out, regardless of what the condition might be surrounding it, it might be used sometime; if the street were closed up it certainly could be worth one dollar a foot.

Q. Did you find the first intersecting street, that there was an asphalt pavement on that street, the first intersecting street to the east?

A. I don't recall that specific piece.

Q. It is a pretty well built up neighborhood down there, isn't it?

A. Yes.

Q. And you only put one dollar a front foot value on it?

A. Yes.

Q. And you put a value of three dollars a front foot on property out in Piscataway Township, along the railroad, farm land?

A. Yes.

Q. And this is in the center of a manufacturing city?

A. That is all right.

Q. Turn to the diagram showing the Watchung, diagram No. 28, parcel No. 76; you put a valuation of two hundred dollars on that?

A. Two hundred dollars, yes.

Q. What land did you sell in that vicinity recently?

A. None recently; we have pieces listed in through there, and is worth, as I say, from two to three hundred dollars an acre.

Q. What sales have you made up there?

A. None recently.

Q. How near is any sale that you have made to that land?

A. I should say a mile, mile and a half.

Q. It is on the side of the mountain, isn't it?

A. Yes, but we have property listed up through there.

Q. There are miles of property through there which is absolutely undeveloped, the same as it has been since the country was settled, isn't there?

A. Yes.

Q. It isn't tillable, is it?

A. A lot of that land is very good, lots of woodland which has very good value.

Q. Scrub growth, isn't it?

A. No, there are lots of very good trees on it.

Q. It isn't first growth, is it?

A. As I say, it has a lot of good trees.

Q. For cord wood, but not for timber.

A. No, there are trees up there that could be used for other than cord wood.

Q. You haven't sold anything in that vicinity, you say, for some time?

A. I say about a mile or a mile and a half from there.

Q. How long ago was that?

A. About a year ago.

Q. Was it up on the mountain or was it down towards the level ground?

A. Down towards the level ground, but we have property listed to-day in the office—

Q. I don't care what you have listed; I want to know what you have sold.

A. That is what I tell you.

Q. You think that land, although you have made no sales, is worth two hundred dollars an acre?

A. Yes.

Q. But you haven't had any purchasers for property there at that price in that vicinity, have you?

A. I think quite a little bit of land has been sold up through there.

Q. But not by you?

A. Not by me, but my opinion has been asked, and so forth, about it by different people that were buying.

Mr. Hague—That is all, Mr. Lyman.

By Mr. Herrmann.

Q. Will you outline briefly any rights of way that you have ever appraised other than these?

A. Well, for the water company we have bought considerable property, and we have also gotten options, and so forth, on rights of way.

Q. For this company or for any other company?

A. For this company.

Q. Did you in fixing your value, undertake to find out what the rights of way cost to acquire?

A. In lots of instances my appraisals are less, and in some cases slightly more.

Q. In every instance did you try to find out the cost to acquire them?

A. No, I didn't; the conditions at the time they bought it might be different than to-day; real estate has taken an advance in the last two or three years, as everybody knows.

Q. And you desire to give the company the benefit of that advance?

A. No, sir, I do not; I didn't favor them in any way; I just used my own good judgment, and my appraisals are very low right on through.

Q. Where you found a right of way running through a tract of land did you undertake to discover what title the company had to it, whether it was an easement or a fee?

A. There are some here that were marked easements and some that they owned in fee.

Q. Would it make any difference in the finding of the value of rights of way whether it was an easement or a fee?

A. No; I just took it as realty value and where it was an easement it would probably cost them more, but I didn't use that in my appraisal.

Q. Would it make any difference in your appraisal whether it was an easement or a fee?

A. No, not at all; I just took the real estate end of it.

Q. In other words, you value dit at the fee in all cases.

A. No, I simply valued it from a real estate standpoint.

Q. That doesn't mean anything. If you will tell me, from a real estate standpoint, whether you appraised as a fee or as an easement, we will find out how you did value it.

A. I didn't take that into consideration; I just went by the diagrams that I had.

Q. The property has a value as a fee?

A. Yes.

Q. Well, then, you valued the fee, regardless of the fact of whether it was an easement or a fee?

Commissioner Treacy—You paid no attention to the fact that it was an easement at all?

Witness—That is the idea.

Commissioner Treacy—You took the value of this property to the purchaser who was buying the fee?

Witness—That is right.

Q. (By Mr. Herrmann.) Where it was running through vacant lands what method did you use in appraising a right of way?

A. I used the method it was worth so much per acre, and by lessening the value of the surrounding land from the fact of the right of way, and took off a very good percentage of the actual worth per acre on account of that, but if the Water Company went to buy it, it would cost them considerably more, probably two and a half times the acreage value.

Q. Did you use a multiplier?

A. No, I just simply put it in as so much per acre, and took off a certain percentage because of the fact of its affecting the surrounding property.

Q. Let us assume a strip of land ten feet wide running across a square acre; let us know the method you would use in valuing that right of way, assuming $1,000 an acre, so that we can find out how you got the right of way value.

A. You take down there at Grasselli, I figured that was worth from $3,500 to $4,500 an acre, and I allowed about one-third of that, from the fact of it being narrow, and I based it at $1,500 an acre, which, according to the length, made it $4.00 a running foot.

Q. That doesn't give me your method. Assume, if you will, a square acre with a right of way ten feet wide running across it, the acreage being $1,000, how would you find the value of that ten-foot strip?

A. If I went to buy it I would figure I would have to pay two and a half times that acreage value.

Q. So you did, in your calculations, use a multiplier of two and a half?

A. No, I did not; I figured on how it affected the surrounding property, as to value, by that right of way being there.

Q. What do you mean when you say you would add two and a half times to it?

A. If I had ten acres of ground and somebody came along and wanted to use it for a right of way, and it ran up to the railroad, and was going to block off my property, I would expect them to pay for the damage done to other property if I sold it to them.

Q. What would you value that right of way at running through this acre costing one thousand dollars?

A. I would appraise it according—I would, instead of adding anything to it, I would take it off, from the fact that they wanted to sell it; unless a man wanted the other part to get a railroad siding, probably he wouldn't pay within one-third of what it was worth.

Q. Pick out, will you please, one of those rights of way you appraised at two or three dollars a running foot?

A. I appraised one up here at four dollars per foot; that figures on a basis of about fifteen hundred dollars.

Q. Tell me exactly how you arrived at three dollars a running foot.

A. That piece there is 630 feet long and I think approximately 60 feet wide, that would be about three-quarters of an acre, so basing it on $1500—I based at about $3500 an acre, and it is three-quarters of an acre, approximately $2500, and at a length of 630 feet, that figured out $4.00 a running foot.

Q. (By Mr. Hague.) Which property was that?

A. The one down at Grasselli.

Q. (By Mr. Herrmann.) What map are you referring to?

A. No. 23.

Q. That is contiguous to a connecting railroad, is it not?

A. Yes.

Q. Do you know whether it is within the railroad right of way or along side of it?

A. It connects two railroads.

Q. Isn't it actually within the railroad right of way?

A. As I see it, according to the map here, it connects the Sound Shore and Central Railroad.

Q. Would that make any difference to you, whether it was in the railroad right of way or along side of it?

A. I figure—

Q. Just answer the question. Would it make any difference to you, as a real estate man, whether it was within the railroad right of way or along side of it.

A. I think where it is joining together two railroads it is worth more money than if it was along side of it.

Q. Suppose it is within the right of way of the railroad?

A. What do you mean "within"?

Q. Within the right of way.

A. I think the whole value on this particular piece, running from railroad to railroad, has the same value and is worth more than if it ran along the railroad.

Q. You think there is no difference between a right of way within a right of way or outside of a right of way of a railroad?

A. No, because all this can be used in connection with these two railroads.

Q. You don't understand my question. From the Central Railroad, which is at the top of your page 23, to the Sound Shore Railroad, which is midway on the page, there is a connecting railroad; the part colored red is the right of way of the Water Company?

A. Yes.

Q. That lies within the right of way of this connecting railroad. Is it worth more or less than it would be if it were outside of this right of way of the railroad?

Mr. Wherry—Do you say it is within the right of way of the railroad?

Mr. Herrmann—I say it is, yes.

Mr. Wherry—We have no property within the right of way of the railroad, unless you have got the map wrong.

Mr. Herrmann—This is contiguous to the right of way of the railroad then.

Mr. Wherry—Yes, it is contiguous, but it isn't within the railroad right of way.

Mr. Herrmann—My assumption was that it is within the right of way, and I think if you will turn to page 22, Mr. Wherry, you will desire to correct that statement, because it is manifestly within the right of way of the railroad.

Mr. Wherry—Is that diagram No. 23?

Mr. Herrmann—Yes.

Mr. Wherry—Is it the part that is colored pink?

Mr. Herrmann—Yes.

Mr. Wherry—Mr. Townley tells me that is just adjacent to the railroad right of way.

Mr. Herrmann—I see; I thought it was within the right of way.

Mr. Wherry—I beg pardon, if you will look on page 22, there are two places on No. 22 where it is within the railroad right of way; that is on the Bound Brook parcel which is excluded.

Mr. Herrmann—Then they only have an easement in the railroad to lay it on there, and those were valued?

Mr. Wherry—Well, I have got to take that up; I don't know whether they were or not; I have got to check that.

Mr. Herrmann—It shows here in this report.

Mr. Wherry—Those were the two pieces that were excluded.

Mr. Herrmann—They were excluded because the witness wasn't competent to testify to it, but they are included in the valuation put on it.

Mr. Wherry—That is true.

Q. (By Mr. Herrmann.) Will you answer the question: If this is contiguous to the railroad right of way does that add or take from the value which you have assigned to it?

A. I should think it would add to it.

Q. Did you add anything to it because of its contiguity to the railroad?

A. On account of there being two railroads, yes.

Q. How much?

A. One dollar a running foot more than any other that was along the railroad.

Q. And for what reason?

A. For that reason.

Q. Just because of its contiguity?

A. Yes, sir.

Q. Where it crossed a railroad, as it crosses here the Sound Shore Railroad, what did you allow for that?

A. What is that, No. 26?

Q. No. 23.

A. Where, did you say?

Q. Where it crosses the Sound Shore Railroad?

A. What is the number of it?

Q. No. 44 and No. 45.

A. I figured that they connected in there just the same.

Q. What did you allow a running foot for that strip?

A. I allowed the same for No. 43 and No. 45.

Q. You don't think that, being across the railroad right of way, that it could be used for no other purpose?

A. It could be joined for that purpose if anybody wanted it, I suppose. Numbers 46 to 48, down further here, I appraised at three dollars a running foot.

Q. How did you arrive at that value?

A. I arrived at that value by taking this top value as a starting point, and it being on two railroads, it was worth at least one dollar more per foot than this one down here, just along the railroad.

Q. On may No. 26 it would appear that the right of way is included within the lines of South Fifth Street?

A. That is the parcel that I say we haven't sold any real estate in Elizabeth, and it was based upon the fact of that other part.

Q. Would it make any difference to you in appraising property whether the property was included within the legal lines of a street or outside of it?

A. Yes, if it didn't have enough frontage to have a realty value.

Q. Suppose it ran through the center of the street, would that affect the value that you put on it?

A. Well, at some time they might want to close up that street—

Q. Would it affect that value, or would you put the same value on it?

A. It would affect it.

Q. How has it affected it in your appraisal here?

A. Because, being in that location in Elizabeth, it would be worth a good deal more than one dollar a foot.

Q. You say that you do recall that that is within the legal lines of the street?

A. As I say, as I remember it, it is fourteen months since I saw that property.

Q. You know there are rights of way elsewhere in the public streets of Elizabeth, don't you?

A. I don't recall any; this is all I know about it, what I have here.

Mr. Herrmann—That is all.

Mr. Hague—I would ask the Court to direct that the Water Company file some sort of supplemental paper showing which of these rights of way consist of an easement, and that those items at least be rectified, because they couldn't be valued as pieces of real estate that could be sold, and clearly, there are two of them along the river, although they were excluded on my objection because the witness wasn't competent to testify as to those values, but they couldn't be included for the purposes of sale. I think this appraisal ought to clearly show which is an easement and which is a right of way, those which they own in fee.

Mr. Wherry—It does; it is indicated on the appraisal; it is marked "easement" in each case.

Mr. Hague—This witness has valued every one of them for the purpose of sale.

Mr. Wherry—Yes, he thought the easements would probably cost more.

Witness—I figured it on a fair basis, in my opinion.

Mr. Hague—For the purposes of sale?

Witness—Yes, surely. I didn't take the Water Company into consideration along any line, knowing the fact that in a number of instances they paid more money than I put in the appraisement; that didn't make a particle of difference to me at all.

Mr. Hague—But you know in many instances they paid less?

Witness—There was one case where they furnished pipe and supplied water—

Mr. Hague—Did they pay three dollars a front foot for land in Piscataway Township?

Witness—Taking the length of time they take to furnish water to the property owners, it will cost more than three dollars a front foot.

Mr. Hague—Your appraisal was made on the basis of what this property would sell for to someone else?

Witness—Yes.

Mr. Hague—Regardless of the fact—

Witness—Of whether it was an easement or a fee; that is right, absolutely.

Mr. Hague—Yes.

Mr. Herrmann—May I ask you one more question?

Witness—You certainly can.

Q. (By Mr. Herrmann.) Turn to map No. 12. Why did you value the right of way colored yellow and the part colored pink separately from the value of the reservoir itself?

A. I didn't value any colored pink, or I didn't value any property down around the reservoir; the only one I had was along Orchard Street, No. 52 and No. 53.

Q. Didn't you put an appraisement on No. 51?

A. No. 51, which faces on Orchard Street, that is all.

Q. Why did you value the right of way separately from the reservoir?

A. I didn't have anything to do with the reservoir.

Mr. Herrmann—I want to call the Commission's attention to this—

Commissioner Treacy—One for the land covered by the reservoir.

Mr. Herrmann—And the other for right of way immediately adjoining.

Commissioner Treacy—And the other for right of way immediately adjoining.

Mr. Hague—I might state for the benefit of the Commissioner that Mr. Ryan testified at the last hearing as to the value of the reservoir property, and Mr. Ryan testified that the balance of the property in the rear of the lots fronting on Irvington Avenue took in to the Elizabeth River, which would include this right of way which the witness has attempted to value also, so there is a duplication of values.

Mr. Wherry—Well, if there is a duplicated item there, it should be excluded; I am not sure that there is.

Q. (By Mr. Herrmann.) If there were an appraisal of the parcel No. 44 down to the river, would there be any separate value of this right of way along the bank of the river?

A. No, I base it from the fact of the Grasselli plant and based it according to its situation, and so forth, and took off so much percentage for that. I based all rights of way by the running foot.

Q. If it had been included by Mr. Ryan in his valuation of that parcel, would there be any reason for the valuation of this right of way separately of that?

A. No, I should think it ought to all go in that one, because it joins all the way around.

Q. (By Mr. Hague.) What were the widths of these rights of way?

A. Some six feet, some ten, some fifteen.

Q. This diagram, or the appraisal submitted, does not give the widths of them, does it?

A. Not on here, but it does on some of them here.

Q. What is the width of the one marked parcel No. 43 and No. 44 on diagram No. 23, Trenley Station?

A. I figured that that was about sixty feet, as near as I could make it out.

Q. Where did you get your information?

A. According to the map.

Q. This map or a map similar to it.

A. No, this map here (indicating). As near as I could make it out it was close to one thousand feet and I measured it off and it figured to me about sixty feet wide.

Q. Is this the map you had at the time you made the appraisal (indicating)?

A. Yes.

Q. A map similar to this?

A. Yes.

Q. You had no way of getting the dimensions?

A. I ruled it off.

Q. You scaled it yourself?

A. Scaled it myself, yes.

Q. And you assume it was approximately sixty feet?

A. Yes, and then I figured sixty times 630 gave the square feet, about three-quarters of an acre.

Q. Did you follow the same method on all of them?

A. All the way through, yes.

Q. But you didn't have the exact dimensions from the deeds?

A. I just took them according to the dimensions on the map.

Q. As you found them and scaled them on the map?

A. I only scaled the first one.

Q. And then you compared the others with the first one, as to the size?

A. I figured it according to their situations, whether they were out on the road or along the railroad or not.

Q. I mean as to the dimensions, not the value?

A. Most of them here are about ten or fifteen feet.

Q. How did you find that out?

A. They say so here.

Q. Where do they say so?

A. Just for example take Piscataway Water Company, 1 to 10.

Q. What sheet is that?

A. Piscataway Water Company, rights of way, Bound Brook's main No. 1.

Q. What sheet is that in the book of maps?

Mr. Wherry—It is in the list of real estate, Mr. Hague.

Mr. Hague—And what is the number?

Witness—On this map here (indicating); number one, that will give you an idea; one is 50, one is 25, 15, 15, 15.

Q. Is there any difference in the widths of those rights of way as shown on the map?

A. Not according to my knowledge; I only took the one that took in the most expensive right of way that I thought they had and based my other appraisals on the rights of way accordingly.

Q. At the width it appeared to you?

A. Yes, from the first one.

Q. You had no accurate figures?

A. No, it didn't give accurate figures, some six feet, some ten, some fifteen, some twenty-five, and that is the way they go all the way down the line.

Q. Did you find any at 60?

A. Yes, there is one there at 60.

Q. Which one?

A. No. 20 is 60 feet, Bound Brook main.

Q. Is that the only one?

A. Yes, and the others are 6 feet and 10 feet and 15 feet, and so on down the line.

Q. And some of them don't give any?

A. Some of them are 25 feet and some of them don't give any.

Q. The map shows them all the same width, does it not?

A. Yes, on the map, yes.

Q. So that those on which the dimensions are not given, there would be no way of ascertaining what the width was?

A. No, only from looking at the map you would assume that they were about the same size.

Q. You would take it from the map that they were all the same size?

A. Yes; I didn't measure every right of way with a ruler.

Mr. Hague—I think that is all.

Re-direct examination, by Mr. Wight.

Q. Take No. 43 and No. 48, on diagram No. 23; have you that?

A. No. 43, yes.

Q. No. 43 and No. 44.

A. Yes.

Q. That you have testified you gave a value of four dollars a running foot?

A. Yes, sir.

Q. Do I understand your testimony is that you first valued that property per acre at $3,500 to $4,000?

A. Yes.

Q. And that you then valued the right of way, not by adding any multiple which would increase it?

A. Not a dollar; I took off.

Q. Explain that; just explain how you did do that.

A. Well, I figured it was worth about $3,500 an acre, figuring the size of it, at four dollars a running foot.

Q. You valued it, you say, at $3,500 to $4,000 per acre?

A. Yes.

Q. How much less would you value the right of way per acre, according to that?

A. Well, as I say, on that particular piece I took $3,500 because of the fact it was a block of acreage worth more money. It was worth probably between $4,000 and $5,000.

Q. Yes, for acreage, but for right of way?

A. Well, it deteriorated the value of the right of way down to—

Q. Say that again, please.

A. The surrounding property—by having that right of way there along the railroad, it took away the value of that surrounding property; it might have cost the water company two and a half times that to purchase it,

but the minute they ran that right of way through there it lessened the value of the other property per acre.

Q. What would the property have been worth before the right of way went through there?

A. Four or five thousand dollars an acre.

Q. And you took it at $3,500?

A. Yes, $3,500, and brought it down to four dollars a running foot.

Q. You made it less on account of the right of way being through there?

A. Yes, and those appraisals range on the running foot from four dollars a running foot down to fifty cents a running foot, according to the situation.

Mr. Wight—That is all.

Re-cross examination, by Mr. Hague.

Q. This same parcel No. 43, what is the length of it?

A. 630 feet.

Q. Will you turn to the map, diagram No. 23.

A. (Complies.)

Q. The map is scaled one thousand feet to the inch, isn't it?

A. Yes.

Q. And parcel No. 43 is shown in yellow, is it not?

A. Yes.

Q. It begins at Trenley Point Road?

A. And joins the other.

Q. And joins your other right of way to the east of the Central Railroad's Elizabethport and Perth Amboy Branch, doesn't it?

A. Yes.

Q. And it includes the right of way of the Central Railroad, as shown on this map, doesn't it?

A. They join together at No. 43 and No. 44.

Q. Does it overlap and take in the right of way of the railroad company, as shown on this map here in yellow?

A. According to the way it is joined together there, I assume it does.

Q. Have you taken into consideration and valued the right of way of the Long Branch Division of the Central Railroad, according to your appraisal?

A. I just took the memoranda that I had to go by, and the numbers, and so forth, and appraised them according to their situation, joining two railroads there.

Q. Does the 630 feet, as shown in the appraisal and as appraised by you, take in all the land?

A. It takes all that is marked there as No. 43.

Q. In yellow?

A. Yes.

Q. And that includes land from the Trenley Point Road to the right of way shown as No. 44, colored red, which connects over and comprises the one hundred foot right of way of the Long Branch Division of the Central Railroad?

A. I tell you, I took No. 43 as to the size, the way it was given to me, and joining No. 44, between the two railroads.

Q. But it does take it in, doesn't it?

A. I didn't make any appraisal as to taking it in.

Q. You made your appraisal as if the railroad was not there.

A. No, I wouldn't value it as high if the railroad was not there; I made the appraisal according to the situation of the right of way.

Q. I mean the land that you put your appraisal on takes in all the part colored yellow.

A. Yes.

Q. You figured it as if there was no railroad crossing there?

A. I didn't figure—it was 630 feet; taking off the width of the railroad, it would give that a good depth anyway, it wouldn't affect that any.

Q. It takes off nearly three-quarters of it if you take off the right of way of the railroad, doesn't it?

A. No.

Q. It leaves about one-third of it that is not railroad right of way, doesn't it?

A. That wouldn't affect it for siding purposes.

Q. Where would they get a siding in there as close to a street as that?

A. Where would they get a siding?

Q. Yes.

A. Well, there is land right there along that railroad bed where they could get a siding.

Q. That small piece that is outside of the right of way of the railroad, where it joins the other portion, how would that he valuable as a siding?

A. Because it joins the line of the railroad company.

Q. Who would want it?

A. Anybody, for manufacturing purposes.

Q. They would have to have some other ground, woudln't they?

A. All right, they have got it here, running back over four thousand feet deep.

Q. And the people who own that adjoining ground couldn't get a siding in without buying that land, could they?

A. That is true; they could buy it.

Q. But they wouldn't want it at three thousand dollars an acre, would they?

A. I couldn't say as to that.

Q. Did you make any inquiries as to the price of land along Trenley Road, north of the Central Railroad?

A. No, I just figured the railroad part.

Q. There are residences up there, aren't there?

A. Yes, sir.

Q. And they sell the land by lots, don't they?

A. Yes.

Q. Did you make any inquiries as to what you could buy a building lot up there for?

A. No, I appraised it as right of way, that is all.

Mr. Hague—Mr. Wherry, it is quite evident that this particular piece of property comes under the same objection that is raised as to the Bound Brook property, that is, the property included in the right of way of the railroad.

Mr. Wherry—No, that isn't in the right of way of the railroad.

Mr. Hague—Look here; it takes in all this (indicating).

Mr. Wherry—You mean this yellow piece here?

Mr. Hague—Yes.

Mr. Wherry—That 630 feet, Mr. Lyman?

Witness—That 630 feet, according to my memoranda here, joins all the way down to No. 45.

Mr. Wherry—And it is crossed diagonally—

Witness—I didn't have a map of this description; the only thing I had was a blue print and there were no differences of color shown; it was all white.

Mr. Townley—There are one hundred feet running at right angles across the railroad, on the railroad company's right of way.

Mr. Hague—And there are two hundred feet running diagonally to the railroad right of way, as shown on this map?

Mr. Townley—But it is outside of the right of way.

Mr. Hague—It isn't shown that way.

Mr. Wherry—Taking off that one hundred feet, that would make it 530 feet; that is right, isn't it, Mr. Hague?

Mr. Hague—I don't know, I would like to see some diagram which shows it more accurately than it is shown there; it looks more than one hundred feet, as shown on this map.

Mr. Wherry—Suppose I have a survey made on that for you, Mr. Hague?

Mr. Hague—I think there are a number of them there on which the actual dimensions ought to be shown.

Mr. Wherry—Well, the actual dimensions taken from the deeds, were shown in *Exhibit P-3* and that is where he got that from.

Commissioner Treacy—Any further questions of this witness?

Mr. Hague—I think that is all.

Mr. Wherry—We have no further questions.

Mr. Hague—I want to renew my objection to all the testimony given by this witness, so far as it applies to those municipalities in which he has had no personal experience in buying or selling real estate.

Commissioner Treacy—Any other witnesses?

Mr. Wherry—May it please the Commission, this whole real estate appraisal we furnished, at the commencement of this case, to Mr. Hague, these lists of the real estate with the appraised value of them, the dimensions with reference to where they were recorded were given in the list, and I asked him then whether he had any objection to any parcels of it, I asked him then whether he wanted to have the real estate men come in here, and we are calling these real estate men at his request.

I have additional real estate men; I didn't know exactly what the cross-examination was going to develop. I have some additional real estate men on the question of the Elizabeth property and the Bound Brook property, which, if the objections are sustained as to Mr. Lyman's qualifications on that property—

Commissioner Treacy—Have you these real estate men here?

Mr. Wherry—No, but they will be here this afternoon at two o'clock. These two parcels, numbers 41 and 42, are on the railroad right of way; they are rights acquired from the railroad; they have a regular price that they charge, and if Mr. Hague is willing to give that considera-

tion, I can prove it by putting it in at exactly what they cost, or I can call the real estate men on that.

Mr. Hague—I will take costs if they will put costs on all the rest of the real estate purchased.

Commissioner Treacy—You can put in your cost value, if you desire.

Mr. Wherry—I am only speaking of those two parcels that run across the railroad there.

Mr. Hague—I will accept costs on all of them, or any part of them that they can show.

Commissioner Treacy—That will apply to these two then.

Mr. Hague—I mean, for any other consideration, as to the furnishing of water, or anything of that kind.

Commissioner Treacy—You may put in the costs for those easements.

Mr. Wherry—That Maria Coote property, No. 54 and No. 55, I didn't know that street was dedicated. I would just as leave exclude those two items, they are very small; I believe they cost about $100 in one case and about $200 in the other. Will you take those at cost or do you want those excluded, Mr. Hague?

Mr. Hague—I don't know.

Commissioner Treacy—The total is $300, isn't it?

Mr. Wherry—I think it is.

Mr. Hague—I don't know what they cost.

Mr. Wherry—I say, assuming they didn't cost over $300. We will exclude them anyway.

Mr. Hague—I am satisfied for everything to go in at cost, including that.

Mr. Wherry—I can't put most of it in at cost, because the costs are not ascertainable, because they were not given as cash considerations, I can give the cash considerations of those two that were bought from the railroad, because the railroad has a regular price of $1.50 per foot.

Mr. Hague—Can you give the piece where the Sound Shore Railroad went into the Grasselli Plant?

Mr. Wherry—I will see whether I can do that; I will confer with Mr. Townley on that. As to the dimensions that are set out in *Exhibit P-3,* it is already in evidence that these were taken from the deeds. That strip that he calls attention to that crosses the railroad, map No. 26, that I have got to investigate, and there is one he claims there is a duplication of; I will investigate both of these. And there was some additional information that Mr. Hill was to furnish—

Mr. Betts—In connection with this P-3, pages 41, 42, 43 and 44, there are a number of properties listed, entitled "Easement," this value that is set opposite the items, is that the value of the land in accordance with the way Mr. Lyman has testified, or is that the appraised value of the easement?

Witness—All those that were marked easements were based on the realty value, not taking into consideration the easements at all.

Mr. Betts—You see, in P-3, it sets out definitely—

Commissioner Treacy—I think this witness has testified repeatedly that he did not consider the question of whether he was valuing an easement or a fee.

Mr. Wherry—It is indicated which he valued and which Mr. Ryan valued, and when I call the other witness, he will testify as to how he valued them.

I have to furnish, in addition to what has been furnished, the answer to question Q-9, which has been furnished counsel and which has also been furnished to Colonel Betts, but I would like to have it added to the exhibits in the case. It is the answer to question Q-9—I mean, table Q-9,

response to question 18 and should be inserted between pages 69 and 70 in the folder that has been furnished.

Mr. Hague—I received a copy of that last night about six o'clock by special delivery; I haven't had a chance to look over it.

Commissioner Treacy—It is offered subject to your right to examine on it.

Mr. Hague—Subject to our right to examine Mr. Hill on it; all right.

(Answer to table Q-9 received and marked *Exhibit P-8* for identification.)

Mr. Wherry—Then certain additional information was asked for of Mr. Hill, and that has also been furnished to counsel. I would like to ask to have this marked for identification, and then if counsel wants to use it on Mr. Hill's cross-examination, he may do so, That will be four sheets.

(Four sheets, as follows: Elizabethtown Water Company, overhead; Piscataway Plant, as of December 31, 1918; Raritan Plant, as of December 31, 1918; Elizabethtown Water Company, 24-inch and 36-inch mains. Received and marked *Exhibit P-9* for identification.)

Mr. Hague—Have you proved the value of the land of the Piscataway and Somerville Water Company as yet?

Mr. Wherry—Yes, it is in there.

Mr. Hague—By witnesses?

Mr. Wherry—Yes, all of it is in there.

Mr. Hague—This witness hasn't testified to it.

Mr. Wherry—Some of it was Piscataway and some Somerville. There are still some parcels, I think ten parcels that have to be testified to.

Mr. Hague—In other words, you haven't completed as yet?

Mr. Wherry—No.

Commissioner Treacy—We will recess at this time until two o'clock.

AFTER RECESS.

Nicholas S. Hill, Jr., recalled.

Further cross-examination, by Mr. Hague.

Q. Mr. Hill, this exhibit marked for identification *P-8*, the one you submited recently in answer to that question, on page 42 of *Exhibit P-8*, the percentages which you give are based on appraisals made under pre-war conditions, are they not?

A. On page what?

Q. Page 42.

A. Yes.

Q. Have you ascertaind the actual cost per cubic yard of excavation done at the Ursino Reservoir?

A. No.

Q. Have you ascertained the actual cost per cubic yard of excavation done at the Chilton Street Reservoir?

A. No.

Q. Have you ascertained the actual cost per cubic yard done at the Irvington Avenue Reservoir?

A. No.

Q. Did you ascertain the actual cost of the embankment done for those structures?

A. No.

Q. In making up the quantities of excavation and embankment you examined certain records of the final estimates of the work done, did you not?

A. Yes.

Q. Did you not think it of sufficient importance to ascertain the actual cost of these excavations and embankments from these estimates?

A. Well, that wasn't my reason, but I really didn't think it was important.

Q. Do you assume that there is a considerable amount of deep excavation made at the Ursino Reservoir?

A. No. I don't know what you mean exactly by "deep excavation"; that is a relative term.

Q. What was the depth?

A. I didn't assume that there was any deep excavation there.

Q. Didn't you base your estimates on the price of work that you did at the filter plant?

A. No, not altogether.

Q. For what purpose was the excavation made at the Ursino Reservoir?

A. The excavation there was made for the dam and then there was some earth that was taken out of the reservoir and the reservoir was deepened and it was placed at the sides. I don't remember all the details now; I haven't those details with me.

Q. What is the depth of the water there in the Ursino Reservoir?

A. I will have to look that up.

Q. Is it not a fact that only up to four feet of this reservoir is used for water supply purposes?

A. You mean a depth of four feet, a draw-down of four feet?

Q. The top four feet.

A. I am not positive about that, but I think that that is so; seven feet, I think it is.

Q. Which is is? Is it shown in any of the exhibits?

A. The depth at which you can draw it down?

Q. Yes.

A. No. May I ask for that information, if you want it I can get it right here.

Q. Turn to *Exhibit 1*, page 4—

A. Seven feet is right.

Q. The depth?

A. The depth at which you can draw it down.

Q. Then your exhibit is wrong, is it?

A. Let me see; what are you referring to?

Q. Turn to page 4 of *Exhibit 1*, what does it say there?

A. It says the upper four feet are available.

Q. Then how do you know it is seven feet? Which is it, seven feet or four feet?

A. I just tried to answer your question to get you the information, and I have inquired of Mr. Townley, and he said seven feet.

Q. Well, after refreshing yourself from this estimate, what is it?

A. This report of mine says four feet.

Q. Is the report right?

A. I will have to look that up; if it is a point you want looked up, I will look it up for you.

Q. Well, this is submitted from data you went over, is it not?

A. Yes.

Q. And it is in evidence in this case?

A. Yes.

Q. And I would like to know what your answer is now?

A. I haven't any answer now until after I see which is right, Mr. Townley or this report.

Q. Is the answer here, only the upper four feet are available, is that correct or not?

A. I say, I will have to look that up.

Q. Are all the items shown in here subject to the same question as this one?

A. You are as capable a judge of that as I am.

Q. (By Commissioner Treacy.) Can't you just answer that yes or no?

A. I can't answer that question, it is impossible.

Q. All right, say so then.

Q. (By Mr. Hague.) Do you know what the capacity of the reservoir is?

A. I don't remember, no.

Q. Is it twenty-one million gallons?

A. If it is stated in the report, I presume it is twenty-one millions, the available storage is twenty-one millions.

Q. Do you know whether it is or not?

A. That is the information we got at the time of making this report.

Q. This is your report, is it not (indicating)?

A. Yes.

Q. And you checked it up?

A. Yes.

Q. Did you go over it yourself and check it up?

A. I didn't check every figure, no.

Q. Did you check up that item of what the capacity was?

A. I don't know that I did check that specific item.

Q. Then you don't know for certain whether it is twenty-one millions or not, do you?

A. I presume it is.

Q. It isn't a case of presuming. You are testifying as to what these items are, and you have got in here twenty-one millions, is it twenty-one millions or not?

A. There is a statement here that there is a four-foot depth of draw-down; Mr. Townley says seven; the available storage is based on a four-foot draw down; if it is seven feet, then that may be slightly different.

Q. Didn't you make an examination yourself of this reservoir?

A. Yes.

Q. Then why it is necessary to take what Mr. Townley says? Wouldn't you know after that examination?

A. No, I can't go to a reservoir and take a look at it and say that it has so much available storage.

Q. But you went further than looking at it, didn't you?

A. No, as I say, I examined it.

Q. Did you make soundings, and so forth, to make up these items?

A. No.

Q. How were they made up, from figures that somebody else gave you?

A. No, the records of the company show certain things, and we didn't make soundings where the records of the company were available.

Q. Were the records available of the storage?

A. Yes.

Q. And did you use them?

A. Yes.

Q. And did you use them in every case where they were available?

A. Yes.

Q. If only the upper four feet is available, if there is any deep excavation there it is entirely useless now, isn't it, so far as the supply of water is concerned?

A. I am not prepared to say that.

Q. Of what use would it be?

A. I don't know from memory what the amount of excavation was, necessary in building the dam; I haven't in mind just at this moment the rise in the elevation of the stream back of the dam and how high the dam had to be built in order to make this four feet available.

Q. But any excavation not used in the building of the dam would be useless, wouldn't it?

A. Why, I don't know that they excavated that—

Q. If they did, wouldn't it be useless?

A. Yes.

Q. You say that you consider the cost of building cement pipe at Plymouth; will you state the actual cost of building pipe at Plymouth for the several sizes which you have included?

A. I haven't that information, except in this diagram. I think I furnished a diagram diving the actual cost of Plymouth on page 80.

Q. Of what?

A. *Exhibit P-8.*

Q. What was that taken from?

A. That was taken from—those costs were taken, as I have stated in this exhibit, from a paper published in the Journal of the New England Water Works Association; I give the reference here in this questionnaire; it is volume 23, 1909, page one; that reference is given on page 79 of *Exhibit P-8.*

Q. In making up the operating expenses, as given by you in table 52, *Exhibit 5,* you have made certain additions and deductions from the expenses as given by the Company in the report of the Commission; do we understand that you had an accountant go over the

books of the company, taking off the actual operating expenses, and that these figures are the result.

A. Yes.

Q. You have added to the cost of water purchased the interest charges on the money loaned to the Piscataway Company, the Raritan Township Company and the Middlesex Water Company, have you not?

A. Yes.

Q. You assumed then that the Elizabethtown Company did actually pay for this water the amount of this interest?

A. Yes.

Q. Will you turn to table 57, *Exhibit 5?*

A. (Complies.)

Q. Where have you shown in that table the revenue derived by the Piscataway Company for the sales of water to the Elizabethtown Company?

A. The third item of table 57, the Elizabethtown Water Company, the amount stated opposite that item are the amounts that were paid by the Elizabethtown Water Company.

Q. How much is it?

A. For what year?

Q. 1920.

A. $28,782.20.

Q. And that is all you have allowed?

A. No. I would have to look that up to see whether this item includes the interest; I think it does not, in this table.

Q. Why doesn't it?

A. Because the accounts of the Elizabethtown Water Company—

Q. If the Elizabethtown Company paid it, they must have received it; isn't that so?

A. I mean, it doesn't appear in the item of water sold.

Q. Why?

A. Because the Elizabethtown Water Company had not been charging it in that way; they had not been charging it up as an operating expense.

Q. How have they been charging it? You have included it.

A. Yes, I have included it, because I think it is a proper charge.

Q. But you didn't include it as a revenue to this company, did you?

A. Well, now, I am not certain of that.

Q. Well, will you look it up?

A. I will have to look it up.

Q. Will you look it up now?

A. I can't look it up.

Q. Isn't it right here in the table?

A. I don't know whether that is all that I have allowed; I will try and find out for you, if I can.

Q. Is it anywhere in this table, Mr. Hill?

A. I have tried to explain to you that the Elizabethtown Company—

Q. Is it anywhere in this table as a revenue?

A. I think not.

Q. It isn't necessary for you to think. Can't you tell by looking at the table whether it is or not?

A. Not at once. (Examines table.) In estimating my operating revenues I have not used this figure of $28,782, which the Elizabethtown Water Company paid to the Piscataway Water Company at all.

Q. Mr. Hill, table No. 52 is a comparative statement of the water supply expenses, maintenance expenses, general and miscellaneous expenses and taxes, for the years ending December 31, 1914, 1915, 1916, 1917, 1918, 1919 and 1920?

A. Yes.

Q. And table No. 57 is the same kind of a table, covering the operating expenses for the same years for the Piscataway Water Company?

A. Yes.

Q. The first one being for the Elizabethtown Company?

A. Yes.

Q. In the Elizabethtown you included two items under water purchased, one of $28,782.29 and the other of $12,707; is that correct?

A. On page No. 52?

Q. On table No. 53.

A. I mean, table No. 53.

Q. Yes, the Elizabethtown.

A. I included one item of the Piscataway Water Company of $12,707, as the interest on advances, and another item for the amounts actually paid for water to the Piscataway Company, as such, $28,782.

Q. Now, on table No. 52 those items are carried in to the item of water purchased of $182,385.20, are they not?

A. That is correct.

Q. Now, on table No. 57 is there any item of revenue except the $28,782.29?

A. No, there is not. That is, from the Elizabethtown Water Company.

Q. Yes. But there is an item at the bottom of that table No. 57 as a deduction from earnings of $12,707, isn't there?

A. Yes.

Q. So that item is included as a question from earnings in the Piscataway Company, and the same item is also included as an expense in the Elizabethtown Company, is it not?

A. That is as it should be, probably so.

Q. How can it be an expense to both companies?

A. Not conflicting in any way?

Q. Not conflicting in any way.

A. These papers don't purport to show that it is an expense to both companies.

Q. If the Elizabethtown Company pays to the Piscataway Water Company the sum of $28,782.29, plus $12,707, why isn't it shown as having been received by the Piscataway Company?

A. Because the purposes of these two tables are entirely different: The table of the Elizabethtown Water Company is an adjusted table of revenues and operating

expenses for the purpose of determining what the operating expenses of the Elizabethtown Water Company will be after all charges are correctly made to operating expenses and after all revenues are properly credited. Table No. 57 is nothing but a transscript of the moneys actually received by the Piscataway Water Company and credited by the Piscataway Water Company, without the same adjustments, and is not included in my estimates of revenues or expenses of the Piscataway Water Company.

Q. Where is that explained in this exhibit?

A. I don't know that it is explained, but I think the evidence on the face of it shows that, that is all.

Q. Aren't these two tables in the same relative place in both companies and supposed to cover the same items, No. 52 and No. 57?

A. No, sir, they are not.

Q. Don't they say at the top of them that they are the same?

A. I think the heading is the same, but I believe if you will read the text, you will find they are different.

Q. Then why are they headed the same, if they are not the same?

A. They are substantially the same.

Q. Are they substantially the same in the figures that we have brought to your attention?

A. I made the explanation of the difference in the two tables, and I think you will find by reading the text of the Elizabethtown Water Company in this report that it is explained why these items were added to the actual accounts as shown by the books.

Q. Well, if they are added there, why aren't they also added in the other table?

A. They should not be added in the other table.

Q. Well, if it is paid out by one company to the other it ought to surely be shown in the figures as having been received, should it not, Mr. Hill?

A. I have explained that the Elizabethtown Water Company does not actually carry on its books, as part of

its water supply expenses, the interest on advances, and in the statement which they render the Public Utility Commission that is not included, but as I have stated in the text of this report, for the purpose of fixing the adjusted revenues and expenses which it will be necessary for the Elizabethtown Company to have, they will be required to include that expense if their books are properly maintained. Table No. 57 is a different table, showing exactly what the Piscataway Water Company did in the way of revenue and expense.

Mr. Wherry—It is comparable to table No. 50.

Witness—You will find that table No. 50 shows the actual conditions as they exist.

Q. Isn't the total of revenue deductions the same in table No. 50 as in table No. 52, water supply expenses?

A. Yes, it is.

Q. $326,551.37, the same figure is used?

A. Yes, it is.

Q. Then it is included in No. 50 and not included in No. 57?

A. Yes, that is correct.

Q. So it is included in the item of expense in table No. 50 and you fail to include it in table No. 57?

A. No, I haven't failed to include it.

Q. As a revenue?

A. No, I purposely did not include it.

Q. Well, is it there?

A. It is not there.

Q. Isn't this table supposed to show everything? That is an item of expense.

A. Which?

Q. An item of revenue. Isn't table No. 57 supposed to show all the items of revenues?

A. No, not necessarily. I have taken table No. 57 as an abstract of the revenues and receipts, as shown by the company's books.

Q. Where is the abstract of the revenues of the Elizabethtown Company?

A. Tables No. 50 and No. 52 are abstracts of the revenues and receipts of the Elizabethtown Water Com-

pany, with the items of interest on advances to the Piscataway and Raritan Township and Watchung Water Company included or added to the amounts taken from the books.

Q. Isn't this item a revenue to the Piscataway Company just as much as it is an item of expense to the Elizabethtown Company?

A. Yes, it is an item of revenue to the Piscataway Water Company as much as an expense to the Elizabethtown Water Company.

Q. And it isn't included, is it?

A. It is not included, as I am trying to explain, for the reason that I wasn't attempting in that table to make a modified statement of the earnings and operating expenses of the Piscataway Water Company.

Q. How are we to know from your exhibit what the total revenue of this company is?

A. I have clearly and carefully set forth the changes that have been made in the Elizabethtown Company.

Q. Where is it set forth in the Piscataway Company?

A. It is not set forth in the Piscataway Company.

Q. Then how are we to know what the total revenue received is?

A. Because that statement is a correct statement of the revenue received by the Piscataway Company.

Q. How are we to know that they received $12,707 more than is shown?

A. You can find that out from looking at table No. 52 of the statement of the Elizabethtown Water Company, which shows you that they paid that much in advances on interest to the Piscataway Water Company.

Q. If anyone was looking for revenues received by the Piscataway Company, would they go to a table which showed the expenses of the Elizabethtown Water Company to see whether they paid something to the Piscataway Water Company, if they were looking for revenues of the Piscataway Company?

A. I have nothing to do with that; I simply state that I have given you a statement of the Piscataway earnings as they carried them.

Q. Is there any table that shows that $12,700 as an item of revenue by the Piscataway Company?

A. Not that I know of.

Q. Then on Table No. 50 the net profits for the year to the Elizabethtown of $97,513.88 is less than the actual net profits, is that so?

A. No; that, in my judgment, is the correct net profit of the Elizabethtown Water Company.

Q. Then on table No. 57 the net loss for the year of $31,971.59 to the Piscataway Company is greater than what they actually lost?

A. What was that figure again?

Q. Page No. 57, the last item, net loss for the year, $31,971.59, that is more than what they actually lost, isn't it?

A. No, it is not.

Q. Then is it your idea, Mr. Hill, that the net profits for the two companies, the Elizabethtown and Piscataway companies, is $65,642 for 1920?

A. No, I don't think you could say that.

Q. Well, is it or isn't it?

A. I think it is not.

Q. How much is it?

A. I don't know exactly.

Q. Well, will you figure it out and let us know?

A. I will, yes.

Q. I mean now.

A. No, I can't do it now.

Mr. Hague—I ask the Commission that this witness answer these questions now.

Commissioner Treacy—What is the question?

Mr. Hague—It seems that every time, on cross-examination, we get this witness to a point on his own figures, he wants to try and submit a questionnaire on it.

Commissioner Treacy—What is the question?

(Last questions and answers read.)

Q. (By Commissioner Treacy.) When can you have it?

A. There are four companies in this thing and their expenses are intermingled, and in preparing these tables—

Q. All right, when can you have it?

A. I can have it by to-morrow afternoon.

Mr. Hague—There are two figures on the end of the page of two of these tables.

Commissioner Treacy—Well, if you have it to-morrow, won't that be sufficient?

Mr. Hague—This examination has gone on discrepancies in this, and it is our intention to prove these figures which we have.

Commissioner Treacy—Mr. Hill says it is more difficult than you apparently think it is.

Mr. Hague—It is set right down here on the page: Take the net loss for the year, $31,971.59, and net profits for the year, $97,513.88, between those companies, and he can find it out by putting these two figures together.

Commissioner Treacy—Well, you can do that yourself; you can ask him those questions and put it on the record that way, and if he doesn't answer them, the inference is unfavorable to him. It seems to me he will be obliged then, in self-protection, to produce what the figures are, if they aren't what you say.

Q. (By Mr. Hague.) Under the heading of net profits for the year 1920, $97,513.88; is that figure correct?

A. I say it is a correct figure.

Q. Turn to table No. 57, bottom of the page, net loss for the year of the Piscataway Company.

A. Yes.

Q. The first figure is the Elizabethtown Company. Piscataway Company for the year 1920, net loss for the year, $31,971.59; are those figures correct?

A. Yes.

Q. Turn to table No. 60.

A. What page is that?

Q. It just precedes page 24, table No. 60, of Raritan Township.

A. Yes.

Q. The last item, net loss for the year, under the column for 1920, $11,081.19, is that figure correct?

A. Yes.

Q. Mr. Hill, if you took the net loss to the Raritan Company of $11,081.19 and the net loss to the Piscataway Company of $31,971.59 and totalled them together and subtracted them from the net profits for the Elizabethtown Water Company of $97,513.88, would that give you the net profits for the three companies?

A. I don't think it would.

Q. Why not? If those figures are right, why not?

A. Because we would have to make adjustments in the statements of the Piscataway and Raritan Township water companies for the interest advanced, which are not made on statements No. 57 and No. 60.

Q. Is there anything on table No. 50 which says anything or shows anything about adjustments of interest, which you speak of?

A. No, because they are not made on these tables.

Q. Have you examined the machinery of the Elizabethtown Company in the Elizabeth River Pumping Station?

A. Yes.

Q. Did you examine the Davidson pump at that station?

A. Yes.

Q. Do you think that this pump, as it stands in that station, is worth the sum of $4,162 either to the Elizabethtown Water Company or to anybody else, for any purpose whatever?

A. I think it is to the Elizabethtown Water Company.

Q. What did it cost?

A. I give the figure of its cost in the questionnaire, P-8.

Q. Have you got the figure?

A. It cost $2,500.

Q. And when was it purchased?

A. It was purchased in 1887.

Q. That is 34 years ago?

A. Yes.

Q. It was bought 34 years ago and cost $2,500 and you say it is worth $4,162 now?

A. Yes, I do.

Q. What could you buy a steam turbine pump of the same capacity for to-day?

A. I don't know.

Q. Don't you know the value of steam turbine pumps at the present time?

A. I am buying them from time to time, yes.

Q. And you don't know what they are worth to-day?

A. No.

Q. But you do know that this pump, 34 years old, that cost $2,500 is worth $4,162, after operating for 34 years?

A. Yes.

Q. Did you examine the Worthington horizontal duplex tandem compound direct action condensing engine in the Elizabethtown Pumping Station?

A. Yes.

Q. That is put in at a value of $7,575, in your appraisal.

A. What station is that?

Q. The Elizabethtown Station.

A. I take that to be correct.

Q. You have your book there; if you will turn to page 259.

A. (Complies.)

Q. You have got it in there at $7,575?

A. Yes.

Q. Why is it you didn't put in what it cost in this statement furnished, table Q-9?

A. Because I couldn't get it.

Q. Why couldn't you get it?

A. Because I couldn't find it.

Q. Do you think it is worth $3,575?

A. Yes.

Q. How old is it?

A. It is 41 years old.

Q. 41 years old? What could you buy a new one for now?

A. Well, I presume for about $25,000.

Q. Isn't it a fact, Mr. Hill, that it isn't made now, that you couldn't duplicate it?

A. I don't know about duplicating that very pump, but you could get an equivalent pump of the same type.

Q. A more modern type of operation?

A. Yes, you would probably get a more modern pump to-day.

Q. Is it not a fact that these pumps are old and inefficient and that the cost of operating them is excessive, as compared to present equipment?

A. I wouldn't say it was excessive, no.

Q. Would you say they were inefficient?

A. I would not say they are as efficient as the more modern type of high efficiency pump.

Q. Will you turn to page 325 of your appraisal?

A. (Complies.)

Q. You have an item there of Worthington horizontal duplex triple expansion pumping engine, $16,748?

A. Yes.

Q. That is your appraisal of it?

A. Yes.

Q. What did it cost?

A. It cost $10,250.

Q. And how old is it?

A. It is 16 years old.

Q. And do you believe that an engine that cost $10,250 seventeen years ago is worth $16,748 now?

A. I do.

Q. Of that type?

A. Yes.

Q. Would you put such a pump in a new pumping station now?

A. No, I would not—I will withdraw that answer; yes, I might; under certain conditions, very probably would.

Q. Under what conditions?

A. Well, in a six-million-gallon unit, where coal was reasonable, and under certain conditions, I might recommend a pump of that type to-day; it is a very serviceable pump.

Q. Couldn't you buy a steam turbine pump which would be more efficient and could be operated considerably cheaper, and buy it for less money?

A. You might do that; I won't say that you could buy it for less money, or I wouldn't say under all conditions that a turbine pump would be a better pump to install.

Q. Do you know what you could buy it for?

A. No, I do not.

Q. You can't buy coal very cheaply for that pumping station, can you, considering the cost of transporting it to the pumping station?

A. I don't remember just what coal does cost to the pumping station there, but they have to haul it quite a distance.

Q. Do you know what the relative cost of operation would be as between a modern steam turbine pump and this old pump used by the Elizabethtown Company in their different plants?

A. No, not precisely.

Q. Is it not true, Mr. Hill, that there is not a single pump used by the Elizabethtown Water Company which is a real efficient up-to-date pump?

A. No, I wouldn't say that.

Q. Which one is efficient and up-to-date?

A. Well, the equipment of the Elizabethtown Water Company, as to the pumps, they are substantial pumps; they bought them at a time when the type of pump that they put in was in use and they have a service value to-day. Probably if you were rebuilding that plant you would put in more modern and efficient machinery. That is the way I would like to put it.

Q. Do you think that the value of those pumps used there, as stated by you is greater than the benefits which

would be derived by a new modern pump which could be operated more economically?

A. I haven't made any comparative estimates to say precisely what savings could be effected by installing this type of machinery in those pumping stations. I have my very serious doubts whether scrapping a great deal of that machinery and putting in new equipment would make any radical difference in the operating cost of the company—I don't mean operating cost, I mean total cost; you might reduce your operating expenses, but you would probably increase your fixed charges.

Q. If you could buy a new pump more efficient and at a cheaper price than that you have included in this appraisal, would you still maintain those pumps?

A. I don't know what I would do.

Q. Then you still claim that they are worth what you say they are worth?

A. Yes.

Q. If you could buy a new pump for less money, and more efficient, you would still claim that those figures are correct?

A. Absolutely, the service value to the company to-day.

Q. And that is the basis on which you have appraised them?

A. I have made my appraisal on the basis of the service value of those pumps.

Q. How much could you get for those pumps if you were to sell them to somebody else?

A. I doubt if you could get any more than scrap for them; that is true of any pump that you take out of a station.

Q. It isn't true of a pump that has some efficiency, is it, a modern type pump?

A. Yes; go out and buy a pump to-day and put it in a pumping station and take it out to-morrow and try to sell it; you couldn't get half what you paid for it.

Q. A lot of these pumps bought by the Elizabethtown Company were second hand when bought, were they not?

A. Some of them were.

Q. They didn't pay anything for them but junk value, did they?

A. They paid about the customary price.

Q. Just about what they were worth as junk?

A. A great many of them, that is true.

Q. So that you figure a pump 37 to 41 years of age is worth anywhere from fifty to seventy-five per cent. more now than it actually cost 41 years ago?

A. I consider those pumps, actually in place in the plant to-day, are worth the figures that I put on them.

Q. You have given the prices of labor in New York City?

A. Yes.

Q. On page 25, table and diagram of bricklayers' rates of wages, and also other tables covering the same subject matter of wages?

A. Yes.

Q. Is it not a fact that the wages in New York City are controlled by an agreement between the Labor Unions and the Builders Trades Association?

A. I think that is so.

Q. Then that being so, these prices as to labor in New York City would be no criterion as to prices of the same labor in the City of Elizabeth, would they?

A. They would not necessarily, no, but the union conditions are pretty much the same all over the country.

Q. That isn't so, is it?

A. Yes, it is absolutely so.

Q. Do you know that the same agreement that holds in New York holds in Elizabeth?

A. I don't say the same; I say a similar agreement.

Q. Isn't it a fact that prices have broken in other cities?

A. Not in skilled labor, to any extent.

Q. What about Chicago?

A. In Chicago I think they are holding up pretty firmly; I haven't looked in the last month or so, but until very recently they did.

Q. Isn't it a fact that there was a break here in New York?

A. Not that I know of.

Q. Do you know or don't you?

A. I do not.

Q. Is it a fact that there has been a break in Elizabeth?

A. Not according to our investigation of labor prices made November 1st.

Q. Who made that investigation?

A. One of my assistants.

Q. Who made it?

A. Mr. Aeryns.

Q. Where was his investigation made?

A. In Elizabeth.

Q. With whom?

A. The various contractors about Elizabeth and the Elizabethtown Water Company.

Q. What contractors did he see?

A. I couldn't tell you.

Q. Is that how you know about it?

A. Yes.

Q. And you don't know the contractors he saw?

A. No, sir.

Q. Did he see more than one?

A. Yes.

Q. How many did he see?

A. I don't know precisely.

Q. How do you know that he saw more than one?

A. I know that he saw more than one.

Q. How do you know?

A. From my conversations with him.

Q. Do you know how many he saw?

A. No, I do not.

Q. Do you know anyone he saw?

A. No, I don't know anyone he saw.

Q. Is he here, is your assistant here now?

A. Yes.

Q. Will you turn to table Q-2, page 2, of this P-8, item No. 117, filters, $48,852; how did you arrive at that item?

A. Which item, $48,852?

Q. Yes, as a cost of reproduction at the present time.

A. By taking the cost of the filters and applying the labor and wage and material prices prevailing in the fall of 1921.

Q. As compared to what?

A. As compared with the actual cost, the prices used in the 1918 valuation.

Q. And do you consider that this would cost forty-three per cent. more than it did in 1918?

A. No, I don't believe the individual item of filters would.

Q. Isn't that what is set out here?

A. Yes.

Q. Then that item is not correct?

A. I think in that particular item the allowance is probably a little high, considering the time those filters were built.

Q. Would not the same thing hold, Mr. Hill, on item No. 115, the coagulating basin?

A. Yes.

Q. Of forty-five per cent. more?

A. Yes.

Q. That is not correct?

A. I think that is probably a little high also.

Q. As a matter of fact, do you think it would cost any more?

A. Well, I don't know how much more it would cost; I would have to get the date of those contracts.

Q. From your judgment, being familiar with those things, do you think they would cost any more, those items?

A. Well, I would rather not say offhand.

Q. Well, it is your value, isn't it?

A. Yes, it is my value.

Q. Will you turn to page 3, item No. 125, gas power pumping equipment, $15,522; do you consider that that

item is worth thirty-five per cent. more than it cost in 1918?

A. I can't answer that question.

Q. Well, you are an expert. I will ask you this: Do you think that that figure of $15,522 is right?

A. I can't answer that question offhand.

Q. These are your figures, Mr. Hill, are they not?

A. They are my figures, yes.

Q. And you are here to substantiate these figures?

A. Yes, but I can't tell you whether I think that $15,522 is a little higher or a little lower in this case at this time.

Q. Well, is the same thing true of all of these figures shown on this page?

A. No.

Q. These items all run along; there is electric power pumping equipment, that is thirty-five per cent. more, item No. 124; do you think that item is right?

A. I am not willing to vouch for each individual item; I think as a whole, broadly speaking, the reports which have been used here in getting the relation between the prices based on 1918 values and prices as of November 1, 1921, are correct and fair.

Q. These items were submitted here in response to a questionnaire that was submitted to you, were they not?

A. Yes.

Q. And you promised to furnish these figures?

A. Yes.

Q. And you did furnish these figures?

A. Yes, I did.

Q. And now you admit that these figures are not correct?

A. No, I don't admit that the total is not correct.

Q. Haven't you admitted that figures No. 115 and No. 117 were not correct?

A. I said I thought that possibly the prices on the filters and coagulating basin were a little high.

Q. And you were asked those questions on cross-examination and were requested to look up those figures and submit them?

A. Yes.

Q. And you did look them up and submit them?

A. Yes.

Q. And this is the result of what you looked up?

A. Yes.

Q. And now you are not certain whether they are correct or not?

A. I say, in all details I am not able to substantiate them.

Q. And the same may hold good as to any of these figures?

A. I am not prepared to say that.

Q. Will you turn to Q-2, page 2?

A. (Complies.)

Q. You think the present values of the land should include overhead charges too?

A. The present values of the land?

Q. Yes.

A. Yes, such overheads as are includable.

Q. What overhead is included in this, as set forth in this table Q-2?

A. On real estate—

Q. What exhibit are you quoting from now, Mr. Hill?

A. I am quoting from *Exhibit P-4,* table No. 7. I have allowed for administrative, legal and general expenses on the real estate, $6,087; engineering and superintendence. $12,174; taxes and insurance during construction, $8,116; and interest during construction, $51,862.

Q. That is over and above the market value of the real estate?

A. Yes.

Q. Do you think that anyone would pay that amount that you have shown here for that land?

A. I was not appraising the land.

Q. Isn't the land appraised in here?

A. I am appraising this property as part of a going concern, as a whole.

Q. Is it your idea that this property, including the land, is worth more as a going concern than it would be to be sold?

A. I mean, not as a going concern, but it is valuable as a part of an integral property, operating and functioning as a whole.

Q. Then that is more than its market value, isn't that so?

A. No, it is not more than its market value as a part of an integral operating concern.

Q. If you were to sell this property it would cost something for interest charges in carrying it until you were able to sell it, and would also cost something for commissions in the sale of it, would it not?

A. Probably, yes.

Q. So you wouldn't realize, in the event of a sale, even its market value, would you, after you had deducted those items?

A. May I ask if you are considering these as individual lots or as part of the Elizabethtown Water Company?

Q. That is the way they are valued in this appraisal, is it not, as individual lots?

A. The total value of that property to the Elizabethtown Water Company or to a willing purchaser of the Elizabethtown Water Company, as a whole, is in my judgment the fair value of the real estate, plus the cost incurred in securing and developing the real estate.

Q. Was this property valued by the real estate men as a whole?

A. No, as individual parcels.

Q. And then you put it together as a whole and say it has this value as a whole?

A. No, I say that, in addition to the actual cost of acquiring the land, any company, bringing together property and developing it for utility purposes, has expenses chargeable against that property over and above the actual costs paid for the parcels, as such. In other words, you can't buy a property—if you pay ten thou-

sand dollars for a piece of property, that isn't all it costs; there are other expenses necessarily involved in securing it.

Q. What are they?

A. The expenses which I have allowed here; the engineering expenses in connection with surveys, preliminary plans, and things of that kind.

Q. You mean for the purchase of the land?

A. Yes, for the purchase of the land.

Q. What engineering expenses are there in the purchase of land, outside of possibly a survey?

A. Well, there are very frequently surveys in conjunction with it, that is one of the expenses.

Q. Then you are giving water works value to this land?

A. Water works value?

Q. Yes, a value to it for water works purposes.

A. No, I am not at all. What I am doing in all this work is, I am using cost as an index of value and I am making an estimate of what it would cost to reproduce this property to-day, and that it is one of the indices of value which I have before me.

Q. And which you used?

A. Which I used, yes.

Q. When this real estate was appraised the real estate agents took every little individual piece of property and put a separate appraisal or value on each piece, did they not?

A. I think they did; I am not the real estate appraiser.

Q. You heard the testimony, didn't you, given by the other witnesses for the water company?

A. Yes, I heard some of it.

Q. And the sum total of all those figures, were they taken together and put in as your value?

A. As the base cost, yes.

Q. And you heard the testimony that was given by Mr. Ryan when he was testifying?

A. No, I didn't hear Mr. Ryan.

Q. Mr. Ryan testified, if my memory serves me correctly, as to the Hummock Plant, that he placed a valuation on that land, considering it was being used for water works purposes, and his figures for all of the individual lots that he appraised were taken by you, together with the lots of the other real estate men, and a sum total taken of it, and you put that in as the base cost; is that correct?

A. I took the sum total of the real estate expert's estimates of the values of the individual parcels—

Q. Including rights of way?

A. Including rights of way—and I took that sum total as the base cost of the real estate which the company owned.

Q. Yes. Now, in addition to that, what did you add to it?

A. In addition to that I added what I considered a proper and fair allowance to cover cost of engineering, administrative and legal expenses, taxes and the interest charges on that land, in developing the property.

Q. And the sum total of that is how much?

A. The sum total of that is, in round figures, $78,000.

Q. That is for real estate alone?

A. Yes.

Q. The rights of way are how much?

A. On the rights of way, $16,968.

Q. And do you know what, of those overhead expenses, were actually paid?

A. No, I do not.

Q. Do you know whether any part of them was ever paid?

A. Oh, yes, I know that, but I don't know how much, because I haven't the records to tell me.

Q. Will you turn to table No. 6-A, of *Exhibit P-4;* it follows page 16.

A. (Complies.)

Q. What does that table show, Mr. Hill?

A. That table was prepared to bring the value of the property as of January 1, 1919, up to January 1, 1921.

Q. And these figures in the first column, base cost of reproduction, two, second column, are the actual costs as taken from the books of the company?

A. No, not at all.

Q. What are they?

A. They are the base costs arrived at in my estimates of the cost of reproducing the property as shown on table No. 6.

Q. I will ask this question and let that one go: What are the items here, first, under the second column, base of cost of reproduction, No. 2—go down to additions to plant during year 1919, G, $125,994; what is that figure?

A. Which item is that?

Q. G.

A. That item includes, I think, part of the payment for the Ursino Lake Filter Plant and coagulating basin and such extensions to mains as were made during 1919, and if you will refer to table 7-E you will see that item of $125,994 subdivided by accounts.

Q. I see. That $125,994 is the sum total of these items as shown in that column?

A. On table 7-E.

Q. On table 7-E?

A. In the corresponding column, column 2.

Q. And at the head of that it says, "Book Cost Without Overhead"; is that correct?

A. Yes, that is what we call the base cost.

Q. That is the book cost?

A. The book cost, yes.

Q. As carried on the company's books?

A. As carried on the company's books.

Q. And there are no other charges? You don't charge anything else?

A. No.

Q. In addition to that you charge overheads, don't you?

A. Yes.

Q. Who paid those?

A. The company pays the overheads.

Q. Who did they pay it to?

A. They pay it in various ways.

Q. Who did they pay it to?

A. They paid overheads to their own employees, to their engineers that were engaged on the job.

Q. Isn't the whole of the salaries included in operating expenses?

A. Not properly, no.

Q. In this case, isn't it, with this company?

A. I can't say all salaries are; I don't think that the Elizabethtown Company charges a great deal to overheads.

Q. Didn't you represent that they were in this last questionnaire?

A. I say they don't charge a great deal to overheads; I don't remember the figures.

Q. Then you want the consumers to pay those items and the company to get them here also, don't you?

A. Oh, no.

Q. By this method of figuring?

A. No.

Q. Well, they are in there both ways, aren't they?

A. I am not prepared to answer a question as broad as that offhand.

Q. How long will it take you to find out and let us know, Mr. Hill?

A. I think it would be quite a job to pull out all the overheads charged off there.

Q. Why did you add them?

A. Because I am seeking here to get an estimate of what I consider is the fair cost of this property for the purpose of getting a fair value of the property, and in doing that it is absolutely necessary to include the overhead charges if you are going to get a fair value.

Q. And you have used the same methods in the other companies as you have used in this?

A. In all my reproduction estimates you can count on the same method in including overhead charges as part of cost of plant.

Q. And it is added to book cost where they use book cost?

A. Yes, I use book cost as the best index of what the cost is, if I can secure such information.

Q. Did you use any book cost, except in 1918, 1919 and 1920?

A. Not for reproduction, no.

Q. Those were the peak years, weren't they?

A. 1918, 1919 and 1920 were high, yes.

Q. If you will turn back to *Exhibit P-8,* page seventy-five.

A. (Complies.)

Q. You see those figures, East Jersey and Citizens and Hackensack Water Companies?

A. Yes.

Q. After Hackensack Water Company there is $27.33.

A. Yes.

Q. Where did you get those figures?

A. I got those figures from an exhibit which was put in in the Hackensack case?

Q. By whom?

A. By myself.

Q. Did you see the figure put in by Mr. G. W. Fuller, taken from the company's records?

A. No, but these figures were taken from the company's records.

Q. Mr. Hill, you have a map there of the line of property; will you indicate on the map the point where the Middlesex Water Company supplies water to the main of the Piscataway or Raritan Township Water Companies, on the map?

Mr. Wherry—*Exhibit P-1,* is it?

Mr. Hague—Yes, *Exhibit P-1.*

A. Which map do you want me to place it on?

Q. The map in the front part of *Exhibit P-1.*

A. You don't want me to put it on my copy, do you?

Q. No, I want you to point it out by mentioning where it is located.

A. If you will notice the location of the Park Avenue station of the Middlesex Water Company, indicated by a red rectangle, the main comes east from that pumping station to Park Avenue, which passes very near to that pumping station and to the east of it, and then it comes down Park Avenue and meets the Piscataway-Raritan line where it crosses Park Avenue.

Q. Where does it come into the Raritan Township Water Company?

A. Well, then the water is transported through the mains of the Piscataway Water Company on to the Raritan Township Water Company.

Q. I didn't get that last.

A. Then the water is transported through the mains of the Piscataway Water Company to where it joins the mains of the Raritan Water Company.

Q. Where is that?

A. That is the boundary line between Piscataway and Raritan Townships, indicated on the map as between blue and yellow.

Q. I see. You have indicated on this map, as *Exhibit P-1,* several small distribution systems along the thirty-six-inch pipe of the Raritan Township and Piscataway Companies; are all of the consumers of these two companies supplied by these small distributions?

A. I think that is true, yes.

Q. It is a fact, is it not, that these consumers were taken on at points near the line because it was more convenient to serve them than it was by the Middlesex or Plainfield-Union Companies?

A. I can't answer that question.

Q. You stated in your testimony that you did not know how much it would cost to develop the supply of the Raritan River, I think, did you not?

A. Yes.

Q. Did you consider in any way the necessity for this supply in fixing the value of property belonging to these companies?

A. No, that had no effect upon the final value reached.

Q. Did you consider it at all?

A. Well, I considered it, yes, in connection with the probable operating expenses that the company would require.

Q. In what way, did you make any figures?

A. Not in detail, no; but generally, to see whether the operating expenses of the company would be greater, not alone the operating expenses but the gross expenses, including the fixed charges and operating expenses, would be greater with that new supply development than they are under present conditions.

Q. Well, did you have any figures as to cost when you were arriving at those figures?

A. No very definite figures; I mean to say, no gross estimates.

Q. What was the figures that you used?

A. As I recollect, I think I estimated that development would cost in the vicinity of two million and a half, I think it was.

Q. As of that time?

A. Yes.

Q. What was that?

A. About in 1919, I think.

Q. You haven't given it any study or thought since then?

A. No.

Q. Are you familiar with the published pamphlet entitled "Speech of Mr. Frank Bergen as to the needs for an additional supply of water to the towns now supplied by the Elizabethtown Water Company, the Plainfield-Union Company and the Middlesex Water Company," which was made at a meeting of representatives of the towns called at Elizabeth, September 10, 1919?

A. I have seen it; I can't say I am familiar with it.

Q. Did you take into consideration in the figures that you used at the time the statements made in that speech by Mr. Bergen as to the great need of water.

A. Yes, I have realized that they needed to develop the new supply; I have realized that for some time.

Q. Did you take into consideration the fact that these companies had considered, and were planning to combine in the development of the Raritan River Supply?

A. I don't know what you mean exactly by, did I consider.

Q. In arriving at these figures that you have stated, did you have in mind the fact that these companies were planning to combine for the purposes of developing that supply?

A. I tell you that I had in mind what the effect on the operation of the plant would be if such a development was carried through?

Q. You mean the operating expenses of the whole system?

A. Yes.

Q. And what conclusions did you reach as to the operating expenses in the event of that being carried through?

A. I don't know that I reached a definite conclusion; I can only say that in estimating the operating expenses which this company will require, that the amount which is now paid for water purchased from outside sources, sources outside of those owned or controlled by this company, with the earnings which I estimated should be allowed, would be sufficient to take care of the operating expenses and interest charges on the Raritan development.

Mr. Hague—We have no more questions just at this time, but I have some questions I would like to propound to Mr. Hill a little later on. I don't know whether Mr. Herrmann has any questions at this time or not.

Mr. Wherry—What are your other questions, Mr. Hague?

Mr. Hague—General questions as to this appraisal put in by him; his memory is very hazy and we have got to go into them and find out more about them.

Mr. Wherry—I submit that the cross-examination of Mr. Hill has been very exhaustive, it has covered days and days and has been on the most minute points, and the other side have had a reasonable time for it, and they should be put to it to conclude the case.

Mr. Hague—As I understand it, the Board adjourns at four o'clock, the customary hour for adjournment.

Commissioner Treacy—Yes, we will take the adjournment now. If you desire to continue the cross-examination the next time you may, but if you want to do so you ought to notify Mr. Hill in advance, because he may not want to be here.

Mr. Hague—We expect to go on with Mr. Hill's cross-examination.

Commissioner Treacy—This case is set down on our calendar for to-morrow.

Mr. Wherry—Yes; can we go on with it to-morrow?

Commissioner Treacy—Yes, we will go on with it to-morrow.

(Adjourned to Thursday, December 1, 1921 at Kinney Building, Newark, N. J., at 10:45 A. M.)

BOARD OF PUBLIC UTILITY COMMISSIONERS.

NEWARK, N. J., THURSDAY, December 1, 1921.

Elizabethtown Water Company et al., Application for Increase in Rates. Elizabethtown Water Company, Watchung Water Company, Piscataway Water Company and Raritan Township Water Company, Increased Rates.

Before Commissioner Harry V. Osborne, Esq.
P. Betts, Esq, Chief Inspector.
H. E. Carver, Esq., Inspector.

For Petitioners appears W. M. Wherry, Esq.

For the City of Elizabeth appears Joseph T. Hague, Esq.

For Piscataway Township and Borough of Dunnellen appears R. P. F. Von Minden, Esq.

Nicholas S. Hill resumes the stand on behalf of Petitioner.

Further cross-examination, by Mr. Hague.

Q. In *Exhibit P-8;* have you got that? Next to the last page, table Q-15-B.

Mr. Hague—Has your Honor got that exhibit? That was the one that was submitted in the form of a questionnaire, *P-8.*

Q. You have the table, Mr. Hill?

A. Yes.

Q. You gave the gross revenues for the nine months during 1921 at a lessor rate than for 1920, did you not?

A. I haven't figured that out to see.

Q. Can you answer it?

A. The rate of earnings is less, yes.

Q. Than it was in 1920?

A. Yes.

Q. What is the amount of franchise tax that you figure for the nine months of 1921, as shown by the table?

A. I can't give you that figure. I haven't it with me.

Q. I beg pardon.

A. Franchise tax?

Q. Yes; table 15-C, the last page.

A. Yes. Franchise tax, $23,064.22.

Q. Now, will you turn to *Exhibit 5,* table No. 52, following page 1. Will you give us the franchise tax for the year 1920?

A. $27,739.45.

Q. Then why do you include franchise tax at a higher rate for the nine months of 1921 than in the year 1920 where the gross revenues were less?

A. That was taken from the books. It is only what the books show.

Q. Does it include something more than the nine months?

A. I think not. I would have to produce Mr. Coote for you if you want to find that out definitely.

Q. Can the franchise tax be more than five per cent.?

A. I don't know how the franchise tax was figured for those periods.

Q. Don't you know that the franchise tax is five per cent. as fixed by law?

A. Yes. What I mean is this: I don't know exactly how the adjustments are made on the books for the two periods.

Q. You don't know that the franchise tax is fifteen per cent. of the gross revenues, isn't it?

A. I think that is correct. I can give you—

Q. Derived from property in the public streets?

A. Pardon me. I will look that rule up. I haven't it in my head.

Q. What are you looking for? Are you looking up something?

A. Yes.

Mr. Wherry—Page 5, *Exhibit P-5.*

Witness—That is right. The State franchise tax is based upon the revenues derived from mains in the public highways, streets, and so forth; the rate is now five per cent. when the amount subject to tax is more than fifty thousond dollars and two per cent. when the amount is less than $50.000.

Q. Reading over on page 6, what is the per cent. as applied to the revenues of the Elizabethtown Company?

A. The amount as applied to the Elizabethtown Water Company derived from property in the public highways about ninety-five per cent., and the rate to be applied to this revenue five per cent.

Q. Yes. The gross revenue for the nine months of 1921 is less than the gross revenue for the same period in 1920, is it not?

A. Yes. That is speaking of the tax?

Q. Yes.

A. Yes.

Q. Then should there be an increase in the amount of franchise tax as shown for the nine months in your *Exhibit 15-C?*

A. I presume if it is figured on the straight five per cent. basis the tax would be less if there was a smaller income. I don't know what the date would be the taxes fall due and when they are entered on the books. I don't know how these two overlaps will compare.

Q. You say this is a statement of the water supply expenses, maintenance expenses, general and miscellaneous expenses and taxes for the nine months ending September 30, 1921?

A. Yes.

Q. That franchise tax could not be more than five per cent., could it?

A. It should not be more than five per cent. on the—

Q. That is what you figure?

A. No. They are not my figures.

Q. You have submitted them here as your figures, haven't you?

A. I have submitted those figures with the statement they are abstracts taken from the books of the Hackensack Water Company by Mr. Coote.

Q. The Hackensack Water Company?

A. I mean the Elizabethtown Water Company.

Q. Have you made any inspection of those figures to ascertain whether they are right or wrong?

A. I have made no correction of the figures submitted.

Q. Then they may contain amounts which are not correct?

A. Yes; that is always possible.

Q. They may contain items which were paid but not incurred during that period?

A. That may be.

Q. Then you don't know whether this item is correct or not, apparently, as shown by your exhibit.

A. I said I was morally certain they were correct. To the best of my knowledge and belief they are correct.

Q. Even though they are more proportionately than the year 1920 and a lesser amount of business was done.

A. No; I haven't figured it out to see whether it was just five per cent. on the income for that year.

Q. If that is correct would you still say those figures are correct?

A. Those figures are correct, for this reason: In entering up all the charges of that kind on the books of the operating company there is a certain amount of overlapping between the periods.

Q. On the question of taxes?

A. They balance up from year to year.

Q. That may be true only of these items?

A. What I mean, the taxes paid in the first nine months of the year may be the tax for the entire year and entered on the books as the tax. If you have a twelve months' statement you wouldn't find those taxes in the fourth quarter, for example.

Q. This table submitted by you says it is for nine months. It doesn't say it is for the full year.

A. I think it is the current practice to enter the taxes on the accounts as they are paid.

Mr. Wherry—I may be able to clear this up a little bit.

Mr. Hague—You may clear it up on direct examination.

Mr. Wherry—It is perfectly obvious.

Mr. Hague—It isn't on the face of it.

Mr. Wherry—Maybe not, but when I call attention to the fact that the 1921 tax, that you pay in 1921 is on the earnings of 1920, it is five per cent. on that and this twenty-three thousand dollars is nine-twelfths of the amount. We are putting in the tax that is paid this year measured by last year's income. Next year's tax will be measured by this year's income. In other words, there is a difference between the measure of the taxes. This tax isn't like a deduction between what revenue has accrued—

Mr. Hague—But there is a deduction of last year's taxes and this year's expenses.

Mr. Wherry—No, this year's taxes but the measure of it is last year's revenue.

Mr. Hague—Yes; but it couldn't be twenty-three thousand dollars, could it?

Mr. Wherry—Yes; it is on last year's revenues.

Mr. Hague—Based on last year's revenues?

Mr. Wherry—Yes; just like when New York put an income tax for doing business for the next year on the following year, they measure it on the preceding year's business.

Q. You have included in your base cost of reproduction of the plant, the cost of tools, equipment and equipment necessary to do the work?

A. Yes.

Q. In table No. 7, table No. 7, *Exhibit 4,* you have included under the item of other tangible water capital the sum of $43,814, have you not?

A. Yes.

Q. Have you the item, Mr. Hill?

A. Yes.

Q. In that item, what class of material have you included?

A. That item is made up of construction equipment and stock on hand of various kinds, as shown by the inventory, *Exhibit P-2*.

Q. You include all tools and construction materials—

A. (Continuing.) Commencing at page 529 and closing at page 610; every item that is included in those accounts is given in the inventory.

Q. Does that include all tools and construction materials for doing all construction work?

A. Yes.

Q. Why should you include such materials and tools and equipment as a separate item if you are taking them into account in your base cost of all structures?

A. They shouldn't if I have done that.

Q. Have you added to this item overhead charges?

A. Yes.

Q. For this item you have added another $14,372 for work done in 1920; *Exhibit 4*, table 7-E, the second part of it.

A. Yes; table 7-E.

Q. 7-E continued; item 136. Do you find the items?

A. I presume you have reference to the item of—to the entry total non-depreciable, $14,389—

Q. I have reference to item 136, have you got it?

A. Yes.

Q. $14,372.

A. Yes.

Q. For other tangible water capital?

A. Yes.

Q. That represents the same thing, does it not?

A. That represents the additions since January 1, 1919.

Q. Of what?

A. Of the tools and equipment and materials and stock on hand.

Q. Coal?

A. It may include some coal.

Q. Do you know whether it does?

A. Yes.

Q. Isn't it largely coal?

A. I don't know what proportion of it is coal without looking it up.

Q. Let us know.

A. I don't think I can give that to you off-hand. I haven't the details here.

Q. Can you refer us to the place we can find it?

Mr. Wherry—We haven't got it here.

A. We haven't got it here.

Q. Let it go, Mr. Hill. We will probably pick it up later. I will go on with my cross-examination. This item added to the $43,814 makes a total of over fifty-seven thousand dollars, doesn't it?

A. Yes.

Q. What does the company carry on its books for this item?

A. I don't know.

Q. It is over fifty-seven thousand dollars, the two items, is it not?

A. Yes.

Q. I show you the annual report of the Elizabethtown Water Company to the Public Utility Commissioners, December 31, 1920 (handing witness book), and ask if that is not the item appearing there?

A. That is account 152.

Q. Material and supplies?

A. That is not all of it, as I recollect. I haven't in mind just at this moment all the items under the Public Utility classification which should be charged to these respective accounts, but my recollection is that is a part of the account 136.

Q. Has not the company used coal and much of the material which you included in your 1918 appraisal?

A. Yes. They probably used a considerable amount and replaced it with new coal.

Q. Did you take out the amount they used?

A. Certainly.

Q. Where does it appear?

A. I haven't the details here. If you want that information I will have to dig it out.

Q. Will you explain how that item was figured?

A. It was carrying materials and construction materials added in those years and adding them to those on hand at the end—in the year ending January 1, 1919.

Q. Isn't the actual cost of such materials the best guide of the values?

A. In some instances, yes.

Q. Isn't it in all instances where this kind of material has been bought in recent years?

A. Well, I think yes.

Q. Of the material on hand they are constantly using?

A. Yes. Materials bought recently, I should say the current market price was probably the best index you could get off its value.

Q. Is this all that kind of material?

A. Not all of it. Some of the material has been on hand for a considerable time.

Q. What depreciation have you taken out of it?

A. None of the material in that account has depreciated materially except the construction plant, and that material depreciation has been properly accounted for in placing a value on it in the appraisal.

Q. Is there any depreciation shown in this appraisal submitted by you for these materials?

A. I don't know there is. Our custom is usually to price that stuff on the ground, a flat sum.

Q. Mr. Hill, what other items are there which are not shown in this report? You say there are some other items beside the items as mentioned in the report of 1920 to the Utility Board. What are the items?

A. I haven't those details with me; that is what I am telling you; I haven't them here.

Q. Wouldn't they be shown in the reports to the Utility Commission, every item that has been expended for that purpose?

A. I don't know whether it would or not.

Q. Isn't the company required to show all the items of expense for that purpose?

A. No; I don't think the company has filed with the Utility Commission that they have bought a dozen shovels, or fifteen pick axes, or something of that kind.

Q. No. But they would be compelled to show the difference between $37,000 and $57,000, wouldn't they, instead of a couple of picks and shovels?

A. I am not willing to say that the $37,000 in that report of the Utility Commission includes the same items that the fifty odd thousand in this report includes.

Q. But you can't name any item it doesn't include?

A. No. I am not prepared to do that.

Q. Will you turn to *Exhibit five,* table fifty-two; you have through your accountants reallocated some of the items from the amount reported by the company to the Commission, reducing some of the items and increasing others, have you not?

A. Yes.

Q. Are you satisfied that these changes are proper ones?

A. Yes.

Q. Do you know the nature of the charges which have been eliminated?

A. I have not the reconciliation with me.

Q. Will you take *Exhibit P-8,* table Q-14.

A. Yes.

Q. What does that table show?

A. That table shows what it purports to show, the quantity of water derived from the different sources of the Elizabethtown Water Company.

Q. And the prices paid for it?

A. The prices which the Elizabethtown Water Company pays to these companies, but not all the charges connected with the purchase of water.

Q. Where will we find out where all the charges are?

A. They are given in the report, every penny of the charges against the water purchased.

Q. Where will we find them, if they are not all the charges?

A. In the statements rendered in *Exhibit P-4* and *P-5*.

Q. Referring to table Q-14 of *Exhibit P-8*, what was the amount of water purchased from the Piscataway Water Company in 1920?

A. In 1920 they purchased 2,245,225 gallons daily.

Q. Now, Mr. Hill the total amount of consumption of water per day during 1921 was how much less than the total amount of consumption per day during 1920, approximately?

A. Approximately 1,600,000.

Q. A little over a million and a half less per day in 1921 than in 1920?

A. Yes.

Q. Then why didn't the Elizabethtown Water Company purchase a million and a half gallons per day less water in 1921 than they did in 1920?

A. Why did they?

Q. Why didn't they? They used one and a half million less per day, you say.

A. This table shows what they purchased and what they used.

Q. What does the table show that they purchased?

A. The table shows that they purchased--

Q. How much did they purchase from the Piscataway Water Company?

A. 2,166,319 gallons a day.

Q. That was in 1920?

A. No; that is in 1921.

Q. What did they purchase in 1920?

A. 2,245,225.

Q. A difference of about how many gallons?

A. A difference of about eighty thousand gallons, approximately.

Q. Less?

A. Yes.

Q. What did they purchase from the Watchung Water Company?

A. 129,672 gallons in 1920; 265,391 in 1921.

Q. What did they purchase from the Middlesex Water Company?

A. 2,794,148 from Robbins Branch in 1920 and 2,540,177 from the same source during the first eight months of 1921.

Q. A difference of about how much?

A. A difference of about 250,000 gallons a day.

Q. Is that from the two sources, when you take the two sources, do you mean?

A. And from the Park Avenue station. Do you want that separate?

Q. I mean, to take the total from the Park Avenue for 1920 and the total for 1921; what is the net difference?

A. The total amount purchased from the Middlesex Water Company in 1920 was 3,841,052 gallons a day and for the first eight months of 1921 3,781,958 gallons a day, a difference of approxiimately sixty thousand gallons a day.

Q. Less?

A. Yes, less.

Q. In 1921?

A. Yes.

Q. What did they purchase from the Short Hills?

A. From Short Hills they purchased 878,730 gallons per day in 1920 and in the first eight months of 1921, 1,035,837.

Q. A difference of how much?

A. A difference of approximately, of 155,000 gallons a day more in 1921.

Q. And the Rahway City Water Company, there was a decrease there of nearly—

A. 630,000 in round figures.

Q. 630,000?

A. 630,000 gallons a day.

Q. And there was a decrease of approximately 200,000 gallons per day from the Newark supply?

A. Yes.

Q. Now, Mr. Hill, the price per gallon paid to the City of Newark, was it the same last year as this year?

A. Yes.

Q. And the price per gallon paid to the Rahway Water Company was the same last year as this year, fifty dollars a million gallon, isn't it?

A. Yes.

Q. And there was a decrease of the amount of water bought from both of those supplies?

A. Yes.

Q. But the price of the Short Hills Water Company increased from fifty dollars a million to seventy dollars a million gallons, didn't it?

A. Short Hills?

Q. Yes.

A. Yes.

Q. In 1920 to 1921?

A. Yes.

Q. And there was an increased purchase there of 150,000 gallons a day, wasn't there?

A. Yes.

Q. And there was an increase in the water purchased from the Watchung Water Company, wasn't there?

A. Yes.

Q. And all of these purchases of water were made notwithstanding the fact that the total consumption of the Elizabethtown Water Company was a million and a half gallons per day less than it was in 1920, isn't that so?

A. I don't know what you mean by that question.

Commissioner Osborne—You mean to say they purchased more water than they used?

Mr. Hague—No. I mean to say that the consumption of water in 1921 per day was a million and a half gallons less than in 1920; that instead of using water from their own supply they were purchasing and in some instances increased amounts from the companies where there was an increase in the rate.

Commissioner Osborne—Possibly their own supply wasn't sufficient. The question is whether they use all their own supply.

Mr. Hague—I am going by the table of supply.

Commissioner Osborne—I am trying to follow it. Are you trying to show that in purchasing water they purchased it from the more expensive sources?

Mr. Hague—I have nothing to go by but their own report here.

Commissioner Osborne—I am not quarrelling with you; I am asking what you want to show. Of course, you have to show it from whatever sources are available.

Mr. Hague—I want to show they might have saved considerably more money than they did if they had used their own supply and cut out those expensive supplies at the increased rate.

Commissioner Osborne—That one aspect is clear to me; that is to say, it is clear to me what you are attempting to show. It would appear in that connection if your contention were sound, they must have let some of their own supply go to waste.

Mr. Hague—Not necessarily.

Commissioner Osborne—Why; what did they do with it?

Mr. Hague—It is really for them to explain what they did with it. As far as it was going to waste, there was in the Seven Bridge Station, the Springfield Station, it didn't go to waste there because they pump water and they are always short of water as a general proposition.

Commissioner Osborne—You mean, they didn't pump as much as they might have if they hadn't purchased—

Mr. Hague—I don't know. I presume they did not. In other words, the water they could have gotten cheaper from their own supply they apparently didn't use, and the increased consump-

tion was supplied from water purchased from other concerns. That is the way it appears here. The biggest increase was from those who had the highest increase in the rate, Short Hills.

Commissioner Osborne—Short Hills is a subsidiary company?

Mr. Hague—No; Watchung is; that was kept up. The Middlesex they have some working agreement between them.

Commissioner Osborne—I suppose that would be true of any company they purchased water from?

Mr. Hague—Probably; I wouldn't be certain of that.

Commissioner Osborne—I mean, one of these companies that is in this group of companies that are substantially owned and controlled by this same interest.

Mr. Hague—Yes. This table on the face of it shows what I have tried to bring out. I would like to call Mr. Hill's attention to this table and explain that if he can.

Commissioner Osborne—I am not interrupting for the purpose of interfering with your examination but merely to try to get your idea so I can follow it more clearly.

Q. Mr. Hill, what was the amount of water furnished daily from the Elizabethtown pumping station, the Hummocks and Springfield station, the total amount for 1920 and the amount for 1921 per day?

A. 9,840,410 gallons in 1920 per day and 8,961,532 gallons per day for the first eight months of August.

Q. About one million gallons less?

A. About nine hundred thousand gallons less.

Q. So there were 900,000 gallons less furnished per day?

A. Yes.

Q. In 1921 than there was produced in 1920 by those three Elizabethtown stations?

A. Yes.

Q. Is that right? Can you explain that?

A. No; I am not operating the plant and don't know the reason why the supplies were adjusted from the different sources. Of course there are a great many reasons which would control the amount coming from each of those, such as the local distribution and local operation, which I am not familiar with.

Mr. Hague—I think that is all. Mr. Herrmann has some questions, I think.

Commissioner Osborne—Are there any other questions of this witness from anyone?

Mr. Wherry—I have some questions when they get through.

Q. (By Mr. Wherry.) Mr. Hill, turn to your table Q-14, in order to ascertain how much water was supplied by the Elizabethtown, wouldn't you have to add to the 8,961,000 that you gave as the total from the three stations of the Elizabethtown Water Company, those next two items of water bought or procured from Piscataway and Watchung Water Companies?

A. Well, yes, to get the total supply from the Elizabethtown and its affiliated companies or the companies which it controls.

Q. In this whole matter we have treated those two companies as practically having been consolidated with the Elizabethtown Company?

A. Yes.

Mr. Hague—They are not. I think that isn't so; they have been treated as separate companies.

Mr. Wherry—We have treated them as one company in the working out of the rate, as though they were consolidated.

Commissioner Osborne—I suppose they have to treat them as separate companies for the purpose of handling their accounts and keeping their books; the books of each company have to be kept separately. The water purchased from one, sold to another, must be a separate account so the records can be shown or the earnings of each company. But they say they have treated

them for the purpose of rate making as one company.

Mr. Hague—That isn't so. The rates are different from the Elizabethtown; they haven't asked the same rate. They purchase water from them the same as they purchase from any other company that is not affiliated.

Commissioner Osborne—The rates treated the same are the rates for water sold to the public; the Elizabethtown sells to the public.

Mr. Wherry—The Elizabethtown sells to the public at Elizabeth. The only other company is the Piscataway Company.

Commissioner Osborne—Are those rates uniform with the Elizabethtown?

Mr. Wherry—No; they are not uniform.

Commissioner Osborne—Then what do you mean when you say they are treated as one company; as only one company, substantially, selling to the public.

Mr. Wherry—We have treated it exactly as if the Elizabethtown Company comprised these three companies, treating the Piscataway Water Company and the Watchung Water Company also as being owned by the Elizabeth Company, not by deed but the muniments of title, so we treat them exactly as if the stock was owned by the Elizabethtown Company. The Piscataway Water Company's rate filed here is the charge to the Elizabethtown Company to cover the cost of the operation of the Piscataway Company, to cover in that the deficit that has accumulated on this Piscataway plant each year by reason of its not being able to operate and meet its costs. The Watchung Water Company, we had divided the cost between those customers that were outside the Elizabethtown Company and the Elizabethtown Water Company, so that the rate we are asking for from the Elizabethtown Company is

precisely the same rate as if these companies had been consolidated.

Mr. Hague—From the Elizabethtown Water Company?

Mr. Wherry—From the customers of the Elizabethtown Water Company.

Commissioner Osborne—That is to say, you are asking for a rate to take care of the actual cost of production.

Mr. Wherry—With a fair return on the entire property; including the fair return as a cost.

Commissioner Osborne—That is what your company is asking for. Even if it hadn't been treated as a consolidated company, it wouldn't ask for any more than that.

Mr. Wherry—No; but we have eliminated the inter-company charges.

Commissioner Osborne—The inter-company what?

Mr. Wherry—The inter-company accounts.

Mr. Hague—Each one of these companies are shown separately here in their appraisal.

Commissioner Osborne—When you say you make a charge for water sold by one of these companies sold to the Elizabethtown Company, how is that consistent with the statement you have eliminated inter-company accounts?

Mr. Wherry—What I mean is this: these companies have been carried—the Elizabethtown Water Company has carried the interest; I am taking the deficiency in earnings as interest charge when they made an advance to these underlying companies for their deficiency and carrying it as interest. We have treated that as the cost of water rather than an interest charge as between the two companies.

Commissioner Osborne—Interest on what?

Mr. Wherry—On advances made to them. Each year they have treated those deficiencies as an advance.

Commissioner Osborne—The Elizabethtown Company has loaned these other companies money?

Mr. Wherry—Yes.

Commissioner Osborne—They owe the principal and they owe the interest. Therefore they have an account which shows they owe the Elizabethtown Company interest on loans?

Mr. Wherry—Yes.

Commissioner Osborne—Interest on advances; the Elizabethtown Water Company buys water from them and instead of paying for water and having these other companies pay back the money that is loaned, and the interest, they make a book entry; is that it?

Mr. Wherry—Yes.

Commissioner Osborne—And credit the water against the interest.

Mr. Wherry—They credit them some water and charge the rest to advances to them for the balance so they can meet their—

Commissioner Osborne—Then what they have done is they have kept their separate accounts; instead of money actually passing and checks passing for various obligations, they make a book entry is that what you mean by treating them as one company?

Mr. Wherry—Yes. Each year there has been earned by the Piscataway Company less than enough to pay interest on its outstanding obligation and the Elizabethtown Company have guaranteed that interest; paid it and charged the underlying company for it.

Commissioner Osborne—Outstanding obligations consisting in part of interest due the Elizabethtown Company, due itself?

Mr. Wherry—Some of it being interest due itself.

Commissioner Osborne—And dividends on the stock of the Piscataway Company?

Mr. Wherry—No dividends; they never paid any dividends.

Commissioner Osborne—Interest on the bonds?

Mr. Wherry—Interest on the bonds.

Commissioner Osborne—So that the Elizabethtown Company guarantees (I assume under its contract) the interest on the bonds, these outstanding obligations, to the Piscataway Company, is that right?

Mr. Wherry—That is it.

Commissioner Osborne—And it pays that money or makes a bookkeeping entry to take care of it.

Mr. Wherry—Instead of treating that as money that is due to it from the Piscataway Company and putting it on as an item on the books as an asset, we are treating that as money they ought to earn out of the rate which they charge for water.

Commissioner Osborne—They ought to but they don't.

Mr. Wherry—They haven't in the past but our increase in rate is to take care of—

Commissioner Osborne—To take care of the cost of the water.

Mr. Wherry—Yes; we are putting that in as the cost of the water from Piscataway. We are taking it on the fair value of the Piscataway Company.

Commissioner Osborne—Assuming all this is so, what difference does it make in this proceeding?

Mr. Wherry—Simply, the only other question is whether or not the Elizabethtown Company—

Commissioner Osborne—They are separate corporate entities.

Mr. Wherry—Separate corporate entities, yes.

Commissioner Osborne—And should be separate accounts?

Mr. Wherry—Have to be until consolidated.

Commissioner Osborne—One buys water from the other.

Mr. Hague—And one charges interest on the money which is loaned.

Commissioner Osborne—That is all right.

Mr. Hague—It is all right but it shows it is a distinct corporation and cannot be fairly treated as one.

Commissioner Osborne—No; they say they are treated as one corporation in asking for an increase in rate. That may mean much or little; as a matter of fact, it appears from what Mr. Wherry says, they keep separate accounts, each corporation is treated as a separate corporate entity for loaning money to the other, one being obliged to pay it back and pay interest on it.

Mr. Hague—I might remark, your Honor, at the hearing, I think the last hearing that you were present, the cross-examination of Mr. Hill showed they were selling water—he suggested in his appraisal the price to be paid to the Elizabethtown Water Company for water should be $160 per million gallons and they were serving their metered consumers at $150 and a flat rate of $100 and he recommended that rate should remain the same. I don't see how they could be treated as one corporation and charging such a rate as that to the other corporations for water.

Commissioner Osborne—I don't know how they treat it as one corporation except treating it as a sort of community of interest, nobody sues anybody else or tries to collect any bills from one or the other. In what other respect do you treat it as one corporation? You say you do, but—

Mr. Wherry—It has filed combined reports for Federal income taxes, treated it exactly as one company.

Commissioner Osborne—That is because under the ruling of the Federal Department where the separate organizations are owned and controlled by substantially the same people, there is a special provision for a joint return, isn't there?

Mr. Wherry—Yes.

Commissioner Osborne—That is the reason you do that because the Federal regulation requires it or permits it.

Mr. Wherry—Yes; they require it.

Commissioner Osborne—I have forgotten the exact technical term they use for that report; it is a joint report. That is the reason you do that; that has nothing to do with this case.

Mr. Wherry—As a matter of fact the rate which the Elizabethtown Water Company files here to the citizens of Elizabeth would be exactly the same whether we consider—

Commissioner Osborne—Whether you produced this water yourself or bought some of it from these other companies?

Mr. Wherry—Yes. We make a charge in buying from Piscataway for that rate because we have appraised the Piscataway property as if it were part of the Elizabethtown plant, taking the same rate of return and figuring on the rate on that basis.

Commissioner Osborne—I see now what you do: you keep them separate and treat them as separate corporate entities. The rate you charge is the same as though you had no relation with these companies?

Mr. Wherry—Yes.

Commissioner Osborne—Because the rate is based upon the value of the property plus the cost of the service.

Mr. Wherry—That is exactly it; as if we operated it as one whole.

Commissioner Osborne—Just as though it were one corporation and they were operating it. Does that make the matter clear to you?

Mr. Hague—No.

Q. In that table Q-14, do you know what controls the proportions of water taken from the different sources of supply?

A. Well, there are a number of factors which control. In the first place, the available yield at the company's stations vary from year to year. In wet weather they may obtain more and in dry years less; there may be interruptions to the service which cause them to purchase more water or furnish more from the stations at certain times. The amount purchased from the different existing sources varies from year to year because the different companies from whom the Elizabethtown Company purchases water may have more or less water to sell in different years, and then there are certain conditions of elevation which control. Some of the supply will not furnish water to all the territory which the company supplies. They are bound to purchase water to supply certain territory from certain sources. The details of that distribution for this year I am not familiar with.

Q. Does the head of water in the city as compared with the head at points on the line have anything to do with the amount of water that is taken from a given source?

A. Yes; if I understand your question rightly, you mean the higher elevation; they are restricted to those supplies which can furnish water to those elevations?

Q. Yes.

A. Yes.

Q. It isn't simply a matter of adjusting it for the price you have to pay for the water?

A. No, not always.

Q. Or comparing the price with the actual pumping?

A. No.

Q. When did you make the original appraisal here, Mr. Hill?

A. The original appraisal was made in the year 1919, during the year 1919.

Q. Then you brought this appraisal up to date by adding capital additions at cost?

A. Yes.

Q. Why did you do that instead of reappraising that?

A. The capital additions made at that time were, the cost of those capital additions was available and the company had gone to the expense of having an appraisal made, and as long as those costs were available, it was the simplest way of bringing the appraisal up to date without involving any unnecessary expense in the matter of reappraisement.

Q. As I understand, you used this table which appears in *Exhibit P-4,* table No. 4-E; I understand you used that as a check on your appraisal.

A. Following what page, please?

Q. Follows page eleven?

A. Yes.

Q. How did you make up that table 4-E for the purpose of checking?

A. Well, in the first place, in making my appraisal as of 1919, I was confronted with choosing a price basis which I thought was fair and reasonable, and viewing the situation from all viewpoints, we concluded that by taking current labor prices and the average price of materials and labor with certain exceptions, from 1911 to 1918, inclusive, we would establish a base which would fairly represent the permanent set in price levels. And those figures—and an inventory was made and the detailed estimate based on that inventory was prepared on that price basis, which gave the total figure of the appraisal.

Then to see where such an appraisal would lead, we made a study of the property for the purpose of determining in a reasonable way, without making six or eight separate detailed appraisals of the property, the amount of labor and materials of different classes in-

volved and with the price variations, corresponding to our period, we compared what those costs would produce.

And later, 1921, we compared still other bases with the original base to see whether that original base still held at a reasonable point in the scale of price adjustment. And the estimates on every other price base, as shown on table number 4-E, based on that used in the appraisal, were determined by applying the ratio from this study on the quantities of materials and labor in this property.

Q. Is it possible to apply those ratios accurately to each one of the different classifications?

A. Well, not with refined accuracy, no.

Q. Was it necessary for the purpose for which you designed this table?

A. No, it is not. I wanted to get a general check on where my price levels would fall.

Q. Is it your opinion that if you appraised this property, using to-day's current prices, you would get a higher or lower range than on the basis you did use?

A. Higher.

Q. Approximately how much higher?

A. Possibly twenty-five to thirty per cent.

Q. Using that as a check, you concluded your appraisal was a fair one, is that it?

A. Yes, sir; that is one of the checks used.

Q. Then you used what other checks?

A. Well, I compared that price, my price basis, with a pricing based on pre-war prices, and on average prices that would hold for the period from 1911 to 1920, inclusive, based on current prices in 1920, and so on.

Q. Have you made any study to show how prices compared to-day, during this period, with pre-war prices?

A. Yes. In answer to the questionnaire of the Commission we made a special study, the Commission's engineers—we made a special study of the current prices for the purpose of determining the present range.

Q. Have you made any study to determine whether materials show any upward trend now over what they were a few months ago?

A. Yes; we made a study of the material market in general.

Q. What did you find?

A. Why, there has been a downward trend through 1921, up to October, and very recently there has been a hold in the downward trend, I won't say it has entirely ceased but there are indications of strengthening in a number of articles that go into water works.

Q. Did you make a study to determine that to be the permanent set in prices?

A. Yes. That is what the whole study was intended for. I put that in the form of a diagram.

Q. Is this the table you refer to (handing witness paper).

A. Yes.

Mr. Wherry—I will offer that in evidence.

(Diagram No. Q-4, curves showing increase in water works material and labor prices over the pre-war average, etc., received and marked *Exhibit P-10.*)

Q. Will you please explain what that is?

A. In the first place we made a study of the average variation of labor and materials going into water works structures for the period from 1909 to November 1st, 1921, and from that struck the curve marked "Weighted average of water works materials and labor" is plotted; expressed as a per cent. on the pre-war level of prices as shown by the dotted line, from the year 1909 to 1915, which vary very little from the pre-war normal as shown. We then plotted for each year the variation from that normal to show the variation, average weighted variation in labor and materials during the period up to November 1st. For instance, as an example, in 1920 the curve shows that the average of labor and materials was 270 per cent. higher than the pre-war level and that following 1920 there has been a sharp decline down to November, 1921, where the level is approximately 200

per cent. With that data as a basis, we established the price ratios for the periods plotted on top of the diagram, pre-war basis, valuation basis (that is the figure I use in my valuation of the property); ten-year average prices from 1911 to 1920; prices current in 1920 and price, April 1st, 1921, and current prices November 1st, 1921, and with that data before us we plotted the curve marked "valuation, *Exhibit P-4.*" That curve was plotted according to the periods mentioned and through the point at which my valuation is placed or which I estimated is the permanent set in the price level, is drawn a horizontal line which is about 145 per cent. of the pre-war level and which, as you see is much below the peak as shown by the curves and is still lower than the present price level.

I also plotted from this data the ten-year average price for the ten years preceding each of the years given in the diagram from 1915 to 1921, and plotted the ten-year average price level as shown in the curve marked ten-year average up to and including year in the lower scale, showing the trend of the ten-year average basis of estimating value.

Q. With those studies, Mr. Hill, are you still of the opinion that the value which you placed on this property is a fair value?

A. I am.

Q. Is there any difference in conditions confronting you in making this appraisal than those you were confronted with when you made the Hackensack appraisal?

A. Very decidedly.

Q. What is the difference?

A. The Hackensack appraisal was made in 1913 or 1914, on the basis of 1913 and 1914. It is seen from this diagram the variation in price level from 1909 to 1915 was almost normal—was very little. We had a permanent set of price levels that was easily averaged for the purpose of determining the fair value of the property. Under those conditions the actual cost of the property was a much closer index of the value than

the using of the cost of a property built prior to the war would be to-day. In fact the actual cost of a property built prior to the war gives no index of the value under present conditions. Some allowance must be made and consideration must be given to the permanent set in price levels. That is what I have attempted to do in making the reproduction estimate to make a fair allowance for that purpose.

Q. Mr. Hill, you were asked to compare your appraisal of the Irvington Avenue Reservoir with the cost as shown by the balance sheet. How does that appraisal compare with that cost?

A. My Appraisal, did you say, of Ursino or Irvington?

Q. Irvington.

A. My appraisal of the Irvington Avenue reservoir, the base cost was $153,392 and the cost as shown by the balance sheet of the company is $30,512.10.

Q. Did you make a similar comparison with the Ursino reservoir?

A. The Ursino reservoir is carried on the books at $270,658.27 and my estimate of the value of that reservoir is $101,585.

Q. In making your appraisal you weren't governed by what was carried on the books?

A. Not in the slightest because we find the accounts on the books in so many cases so unreliable, as this indicates, that we tested them by making an estimate of the probable cost; they were not, in my judgment, to be relied on.

Q. Mr. Hill, did you find out whether the Ursino Reservoir had an available draw down of four feet or seven feet?

A. Yes, I found out where that difference came in.

Q. Will you please explain it?

A. At the time that the—

Mr. Hague—May I ask a question?

Mr. Wherry—Certainly.

Q. (By Mr. Hague.) Where did you get the information from?

A. From the record drawing in the office showing the intake in the Ursino Reservoir for the new filter plant. When the appraisal was originally made, the Ursino Lake filter plant intake hadn't been put in. At that time they had an intake that let the water from Ursino down to Irvington Avenue Reservoir and they could not draw there below four feet. When they put the filter plant in we put a new intake, the top of which was seven feet eight inches, and we find we can draw down now without getting an orifice of influx or sucking air through the water by reason of that getting too close to the top, about a depth of four to five feet, possibly five feet; that is about the situation.

By Mr. Wherry.

Q. Mr. Hill, will you turn to page twenty-five of *Exhibit P-4*. I call you attention to the fact that you state there you get a gross present value of $850,448?

A. Yes.

Q. And the next paragraph headed "Conclusions" you state, considering the conditions surrounding the property and the present cost of labor and materials, the value of $750,000 as of January 1st, 1921, may be assumed as an equitable base for rate-making purposes.

A. Yes.

Q. In your opinion is the value of that property $850,000 or $750,000?

A. My estimate produces a value of $850,000. My opinion was $750,000 would be a fair figure to take, which I would use.

Q. Why? What considerations led you to think that?

A. I felt after reviewing the estimate that possibly $850,000 was higher than it should be; it was a matter of judgment purely. In other words, my practice is not, necessarily, to be governed by the resultant figure that I would get from making a detailed inventory and

pricing an appraisal, but to use the figure which you would get as a guide for reaching a conclusion.

Commissioner Osborne—You can produce figures to lead you almost anywhere, can't you; within certain reasonable variations? In other words, if you start out to produce a high appraisal, you could produce a much higher appraisal than if you started to produce a low appraisal?

Witness—Yes, if you started out with the deliberate intention of producing something, but, of course, that is not the way to approach the problem.

Commissioner Osborne—I understand. I am asking whether it isn't possible for an engineer to take hold of a property with the thought in his mind that it is his job to produce as large a result as possible, whether he couldn't add here, and there, and everywhere along the line, add to unit prices and reach an abortive result.

Witness—That is true.

Commissioner Osborne—And the other engineer on the other side of the question might produce just as inconsistent a result, just as improper a result the other way.

Witness—Yes.

Commissioner Osborne—And make his appraisal unduly low?

Witness—Yes.

Commissioner Osborne—That is the reason, I assume, you say when you get all through your figures, you have to use your best judgment and common sense?

Witness—Yes.

Commissioner Osborne—That is the only ultimate conclusion anyone could reach on the appraisal of a property?

Witness—I think that is true, sir.

Q. Mr. Hill, will you please explain the way in which the intercompany charges have been treated in making this rate schedule up?

A. Yes.

Q. I call your attention particularly to the fact that yesterday it was pointed out in table 57 you had the interest charges of the Elizabethtown Water Company—P-5—you had those interest charges treated in a different way than on table 53 in the same exhibit? One is table 57 and the other is table 52.

A. To begin with, at the present time—well, I may better start even back of that. As I understand the history of the Piscataway and the Watchung and the Raritan Township Water Company, the Elizabethtown Water Company was restricted by its charter to securing water from sources of supply in Union County, and they took over the Watchung Water Company for the purpose of getting some water from them and made a contract with the Middlesex Water Company to take water from their Park Avenue pumping station, and it was their intention to develop a source of supply on the Raritan River. And in order to build a pipe line outside of Union County, they developed the Piscataway Water Company, or organized the Piscataway Water Company, and by doing so secured certain rights in Piscataway Township and also through the Raritan Township Water Company certain rights in Raritan Township. In securing the Watchung Water Company they also got certain rights which they thought it necessary to have.

In setting up the books after they started—before that; the Elizabethtown Water Company guaranteed the bonds that were issued on the Raritan Township and the Piscataway Water Companies. Those companies are really nothing more than transporting companies; the revenue which they secure, except from the Elizabethtown Water Company, amounts to a drop in the bucket. They have a few little local consumers who give them a few hundred dollars two or three times a

year, from the local consumers, so that the payment of interest on the bonds and the payment on the fair value of the property is dependent entirely upon what they receive from the Elizabethtown Water Company.

Q. That is the Piscataway and Raritan?

A. The Piscataway and the Raritan Township Water Companies. Now, the Watchung Water Company supplies some small communities in the vicinity of their pumping station and had a local business—

Q. Will you confine yourself first to Piscataway and Raritan, and then, if there is any difference, to the others?

A. If you will let me carry it through I think I will finish it better. They have a small distribution system and have some local consumers. The Elizabethtown Water Company guarantees the interest on the bonds of the Raritan Township and the Piscataway Water Company. Then they formulated an agreement among themselves by which the Elizabethtown Water Company paid to these two water companies so much for transporting water through this main and they also put in a source of supply from the Piscataway Water Company, and they paid the Piscataway Water Company, in addition to the amount for transporting it, a certain amount per million for the water that the Piscataway Water Company supplies, and they paid the Watchung Water Company a certain amount per million for the water it supplied.

The bills showed, when all was done and said, and when the Elizabethtown Water Company made the payments, that these two companies had not sufficient (that is the Raritan and the Piscataway) they had not sufficient to pay the interest on the bonds, and it has been the custom and practice of the Elizabethtown Water Company, having guaranteed these bonds, to advance the interest on the bonds every year, and they took those payments and included them as an asset on their balance sheet, and they only carried in their operating expenses the actual payments per million gal-

lons for the water purchased or transported. I immediately claimed that to carry those items as an asset was wrong in principle and that the only way in which you could arrive at the correct solution of this problem of intercompany charges was by making those interest payments operating expenses. In other words, it is equivalent to increasing the amount paid to the Piscataway and Watchung Water Company by an amount sufficient to pay the operating expenses and a fair return on its property, and include that as an operating expense of the Elizabethtown Water Company as long as it was considered as an individual constituent company, which would be exactly equivalent to considering the four companies as consolidated, the only difference would be that the charges for water necessary to pay the interest, if you considered them as constituent companies, would mean an operating charge, whereas, if you consolidate the companies, that portion of the charge which went to pay the interest on the bonds of the company would be an actual charge and not an operating charge; but the gross amount would be the same in either case.

That is the reason I have worked through on this theory. First, I determined what the Piscataway Water Company must earn in order to pay operating expenses, taxes and set up a fair reserve for depreciation and pay the fair return on the fair value, and that gross amount which is the amount which the Elizabethtown Company must pay to that company, and that divided by the number of million gallons of water per year gives the amount per million they would have to pay. The same process I pursued with regard to the Raritan Township Water Company and with the Watchung Water Company, except that I made what I considered a fair division of the cost of operating that plant as between the City of Elizabeth and the local consumers on the local line which this company supplies.

I took the operating expenses of the Elizabethtown Water Company as they carried them on their books, for the operation of their own plant, including their

pumping stations and their own distribution system and their administrative, general expenses, and to that I added these amounts which are necessary to pay Raritan Township, Piscataway and Watchung Water Companies for that service, as a charge for water, which makes the gross total of operating expenses which I estimate the Elizabethtown Water Company must earn. That means, under separate operations, each year the Elizabethtown Water Company would take the amount which I estimate it should take and pay to these companies, they pay the interest on the bonds, and they would have the other transactions, charging the interest to capital account as an asset, the remainder going where it wanted, being absorbed in the water that was sold. If the companies were consolidated, those charges would fall into the proper pockets automatically, but the gross income would be identically the same, and that is the only way I saw that the problem could be treated for the purpose of determining what was a fair rate for the City of Elizabeth to pay.

Mr. Wherry—I have no further questions.

Further cross-examination, by Mr. Hague.

Q. Did you put the Watchung Company in the same classification as you do the Raritan and Piscataway Companies?

A. No.

Commissioner Osborne—He indicated the distinction he made by saying he treated them the same with the exception that he allocated the cost of production between the general consumers and the Elizabethtown. Is that right?

Mr. Wherry—That is correct. There is one thing I should call attention to, on Mr. Hill's report here, the increasing of the Watchung rate to the Elizabethtown would work out higher than the rate which we have filed. We have filed a uniform rate, uniform increase, uniform to the local consumers as well as to the Elizabethtown,

instead of putting—it came uniform, we treated it uniform instead of making a distinction there and making a larger increase to Elizabethtown. In other words, it worked against the local consumers.

Commissioner Osborne—I suppose the matter to be worked out logically it would cost the local consumers more.

Mr. Wherry—It would, yes.

Commissioner Osborne—Than it would cost Elizabethtown, for the reason that the smaller production—

Mr. Wherry—That is what I had in mind in making that charge.

Commissioner Osborne—For the smaller consumption would require a greater cost, overhead.

Mr. Wherry—That is what I had in mind in figuring it out.

Commissioner Osborne—In distributing to few customers than in distributing a larger amount to a single customer.

Mr. Hague—What is the present rate that the Watchung Water Company is charging?

Mr. Wherry—To the local consumers?

Mr. Hague—Yes—no, to the Elizabethtown. Isn't it forty dollars, Mr. Wherry?

Mr. Wherry—Forty dollars.

Recess from one to two o'clock.

AFTER RECESS.

Mr. Hague—I have talked with Mr. Wherry and he has agreed that I might put the Chief of the Fire Department of Elizabeth on the stand at this time. He has to get away.

August Gerstung, sworn on behalf of City of Elizabeth.

Direct examination, by Mr. Hague.

Q. You are chief of the fire department of Elizabeth?

A. Yes, sir.

Q. And have been for how many years?

A. About twenty years.

Q. Did you make a test of the pressure at different fire hydrants in the City of Elizabeth on November 22d?

A. Yes, sir.

Q. This year?

A. Yes, sir.

Q. I show you a copy of the report (handing witness paper) is that the report of the pressures found by you on the hydrants at different points and the time at which the test was made?

A. Yes.

Commissioner Osborne—What are these tests; are they made by the chief?

Mr. Hague—Yes.

Commissioner Osborne—In tabulated form?

Witness—Yes, sir.

Commissioner Osborne—Have you any objection to their going in?

Mr. Wherry—No. I have no objection to their going in.

Commissioner Osborne—Is there any question in your mind about their accuracy?

Mr. Wherry—I just want to look at them a minute.

Commissioner Osborne—Probably we might admit them.

Q. Who was it actually made the test with you, Chief?

A. A man by the name of Porter; Henry C. Porter, connected with Hazen, Whipple & Fuller.

Commissioner Osborne—This is connected with the character of the service?

Mr. Hague—The pressure to be found at different points.

Commissioner Osborne—Is the question of service involved in this case?

Mr. Wherry—We admit the pressure in Elizabeth in the past is not what we would like to give. The question is what to do for an additional water supply and to get meters that will conserve the supply—

Commissioner Osborne—You are not trying to get those through rates.

Mr. Wherry—We can't finance it unless we have the rates, the net income that will enable us to raise the money.

Commissioner Osborne—You don't propose to get the money from the rate itself?

Mr. Wherry—No; only do the financing—

Commissioner Osborne—You will use your rate increase if you get it as an inducement for the investment of capital.

Mr. Wherry—That is exactly it.

Commissioner Osborne—Then you admit these pressures are as stated here.

Mr. Wherry—I don't know, of course.

Commissioner Osborne—Let us assume he will testify they are; what is the answer?

Mr. Wherry—I should like to know how he measures his gallons of water and how many hydrants he had open when he made those flow tests.

Commissioner Osborne—Then why don't you, subject to cross-examination admit he will testify he got those results here and then turn him over for cross-examination?

Mr. Hague—I will offer this in evidence and ask that it be marked as an exhibit.

(Pressure tests, November 22d, 1921, received and marked *Exhibit Elizabeth R-2.*)

Commissioner Osborne—This is admitted subject to cross-examination.

Mr. Hague—Subject to cross-examination.

Commissioner Osborne—Chief, you made these tests?

Witness—Yes.

Commissioner Osborne—Indicated on this exhibit?

Witness—Yes.

Commissioner Osborne—And this exhibit reflects the results of those tests.

Witness—Yes, sir.

Commissioner Osborne—Is there anything else of this witness?

Mr. Hague—Yes.

Q. Chief, did you make a further test on November 29th?

A. Yes, sir.

Q. This year?

A. Yes, sir.

Q. Where was that test made?

A. That was made at Court and High Streets, the fire hydrant water.

Q. Will you just give the results you found at that hydrant?

A. The hydrant, I think the pressure was twenty-one pounds I know that was a dead pressure, having a pressure gauge on the hydrant and showing the pressure while the hydrant was turned on, not at a flow, a dead pressure; in other words, twenty-one pounds on the main, I attached an automobile fire engine to this main and I put on one length of hose, placed a two-inch nozzle at the end, started up the engine and I ordered the engineer—

Commissioner Osborne—Don't give us all the details. Tell us in a general way.

Witness—We had a pressure of 140 pounds at the engine and he drew the hydrant down to five pounds, a vacuum, discharge 752 gallons.

Q. In other words, there wasn't enough flow of water to supply that engine and you were drawing a vacuum?

A. We were pulling the water out of the main.

Q. Pulling the water out of the main faster than you could get it at the hydrant?

A. Yes, sir.

Q. Do you know whether there was a test made at the hydrant in the City of Elizabeth by the Board of Fire Underwriters in 1909 and 1916?

A. Yes, sir.

Q. Is that a copy of the findings of the Board of Underwriters of that test (handing witness paper)?

A. Yes, sir.

Mr. Hague—I offer that in evidence.

Mr. Wherry—Was he present at that time; did he take part in it?

Q. Were you present?

A. No, sir; I didn't have any part in it.

Commissioner Osborne—Is there any objection? If there is no objection I suppose it can be admitted.

Mr. Wherry—Have you the oroginal report of the Board of Fire Underwriters or a copy of the printed report?

Mr. Hague—A copy of it. I think that is pretty nearly in line with the papers introduced in the case by the company in many instances.

Commissioner Osborne—That may be true; that isn't the question. There may be no objection. Of course, you know as a matter of law that wouldn't be admissible as evidence if it was objected to.

Mr. Hague—They have introduced many papers, which were received, in the same way.

Commissioner Osborne—Yes; we are talking about this now.

Mr. Hague—Do you object to it?

Mr. Wherry—I don't object if you say that is a copy of the original report of the the Fire Underwriters.

Mr. Hague—I don't know myself; I will ask the Chief.

Q. Is that a correct copy of the report?

A. That is a copy of the report made by the Fire Underwriters which they had given us a copy from that.

Mr. Wherry—I don't object on the ground it is a report; I simply object to it on the ground of being remote.

Commissioner Osborne—When was it?

Mr. Wherry—1909 and 1916.

Mr. Hague—The purpose of this is to show this is continuous, in line with the present report made by the Chief, showing what the condition was then and now.

Commissioner Osborne—If there is no objection we will take it for that purpose.

Mr. Wherry—Take it for what it is worth.

(Report of test of Board of Fire Underwriters as of 1909 and 1916, received and marked *Exhibit Elizabeth R-3.*)

Mr. Hague—Cross-examine.

Cross-examination, by Mr. Wherry.

Q. How did you measure the gallons listed on this *Exhibit R-2?*

A. I used the water flow gauge which I have with me to show it.

Q. The flow test; did you make that with the fire engine in the same way that you made this flow test you spoke of at Court and High Streets?

A. Yes, the same gauge.

Q. Did you use the engine to make those flow tests?

A. No, sir; not with the hydrant. This one particular test.

Q. That was a hydrant?

A. That particular report there, with about twenty-two hydrant tests. That was simply done at the hydrant, presenting the hydrant flow. The purpose of that report there, that shows an engine test.

Mr. Wherry—That is all.

Q. I want to ask you, Chief whether those conditions which are noted here, "leaky hydrant," "nipple worn," "couldn't open," "don't drain," whether they have been taken care of?

A. They have been taken care of.

Q. They have been taken care of by your department?

A. Yes.

Mr. Wherry—That is all.

Nicholas S. Hill resumes the stand on behalf of Petitioner.

Further cross-examination, by Mr. Hague.

Q. I think at the time we adjourned you were talking about the Piscataway, Raritan and Watchung Water Companies, and how they were connected with the Elizabethtown Company?

A. Yes.

Q. I think you testified there were very few consumers on the Raritan and Piscataway Companies?

A. Yes.

Q. But there were some on the Watchung?

A. Yes.

Q. What was the total amount of water furnished by the Watchung Company in 1920 to all consumers?

A. To all consumers? The total?

Mr. Wherry—Page 14, *Exhibit 1*, unless there is some other place, that appears.

Witness—Yes. I will get it the quickest way I can. It is, in round figures, about three hundred and fifty thousand—$400,000.

Q. That is the total production?

A. Local consumers.

Q. I mean, what was the total amount? On page 14, I think.

A. We haven't the total in 1920.

Q. What was the total in 1918?

A. I am not exactly sure about the subdivision. The Elizabethtown Company received—

Q. Approximately?

A. Fifty-three million gallons and there seems to be the same amount that went to the local consumers.

Q. I am talking about the Watchung.

A. Watchung, that is what I am talking about.

Q. You are wrong. Fifty-three million? Watchung?

A. For the year, fifty-three million.

A. I mean the daily, daily consumption.

A. Divide that by 365.

Q. Doesn't *Exhibit 1,* page 14, show that the pumpage is now at the rate of about one million gallons per day?

A. Yes.

Q. Was that in 1918?

A. Yes.

Q. Is that about what was produced for the Watchung Company, approximately?

A. As I understand it, yes.

Q. Now, if you will turn to table 14 of *Exhibit P-8;* what was the amount purchased by the Elizabethtown from the Watchung?

A. In 1920?

Q. 1918?

A. In 1918 they purchased 656,516 gallons a day.

Q. And the balance of it presumably went to local consumers?

A. Local consumers, yes.

Q. In 1920 was the amount of actual water pumped greater than in 1918, do you know?

A. The Watchung?

Q. Yes.

A. I couldn't say. I would have to look that up.

Q. Do you think it was as much as it was in 1918?

A. I couldn't answer that question. I would be a guess on my part to do it.

Q. What was the amount that was sold to the Elizabethtown Water Company in 1920?

A. 129,672 gallons a day.

Q. Over five hundred thousand gallons daily less.

A. Yes. That was due to a large factory use in that year, locally.

Q. Now, in 1921, the amount sold to the Elizabethtown Water Company by the Watchung Water Company, from January to August, was 265,391?

A. Yes.

Q. Per day?

A. Yes.

Q. Do you know what the total capacity pumped by the Watchung was in those months?

A. I haven't that record before me.

Q. As a matter of fact, the biggest proportion of the water furnished by the Watchung Company is sold to local consumers, is it not?

A. At the present time?

Q. Yes.

A. I can't say.

Q. Isn't it a fact that the Watchung Company supplies the whole Borough of Dunellen and the Borough of Newmarket, excepting three fire hydrants in Newmarket?

A. I am not sure about it; three specifically. That is about the territory they supply.

Q. Isn't it a fact that prior to the acquisition by the Elizabethtown that these consumers were the only consumers they had?

A. They only supplied the local consumers prior to acquisition by the Elizabethtown.

Q. With the same plant?

A. With the same plant.

Q. They have there now?

A. There may be an extension of mains, the ordinary extensions. I mean, they had substantially the same plant to supply the local consumers.

Q. As a matter of fact, the amount of water that has been purchased by the Elizabethtown Company from the Watchung Water Company, as shown here in your table No. Q-4 of *Exhibit P-8*, is such a small quantity that the Elizabethtown Company could discontinue the use

of that water without any inconvenience, could they not?

A. I presume under ordinary conditions they could, but at times they have been forced to pick up every drop of water they could from various sources.

Q. So that the amount of water that is actually sold to the Elizabethtown Company is negligible?

A. Well, it means quite a little to the Watchung Water Company. They are good customers of the Watchung Water Company.

Q. But as far as the Elizabethtown Water Company, its is very little?

A. Yes. It is only a small proportion of their total supply.

Q. It wouldn't be missed if it was divorced entirely and served the territory in which it is located, as far as the Elizabethtown Company is concerned?

A. I wouldn't want to say that. The company has been in positions where it has been barely able to meet the demand made on it at various times in recent years, it has used every available source of supply they could secure.

Q. In your appraisal you recommended the Elizabethtown Water Company should pay a hundred and sixty dollars per million gallons for the water from this Company?

A. I don't recommend they do it. A fair proportion to the cost would make the water cost a hundred and sixty dollars per million gallons.

Q. In addition to that there would be the transportation of that water through the lines of the Piscataway Company?

A. Yes.

Q. To Elizabeth and the cost of distribution through Elizabeth?

A. Yes.

Q. To be added on top of that?

A. Yes.

Q. You also suggest in your appraisal that the rates of approximately one hundred dollars for unmetered water and a hundred and fifty dollars for metered water per million gallons remain the same as they are now, do you not?

A. Not precisely that; but I recommended that the local rates—I will put it this way: Our analysis of the separation of the cost between the Elizabethtown Water Company and the local consumers, proportioning to each their fair charge, indicated that the rates now charged the local consumers should not be charged

Q. And the rate to the Elizabethtown should be increased from forty dollars per million gallons to a hundred and sixty dollars per million gallons?

A. Yes.

Q. Even though they are taking the largest quantity of water of any one consumer of the company?

A. Yes.

Q. Wouldn't that be penalizing the people of Elizabeth, if they were compelled to pay on a rate based on those prices for purchasing water?

A. I don't believe it would.

Q. You assumed they were to take six hundred and fifty thousand gallons per day?

A. Yes. I think that was the figure.

Q. The City of Elizabeth would?

A. Yes.

Q. Although in 1920 they only took a hundred and twenty-nine thousand gallons and in 1921, from January to August, they only took two hundred and sixty-five thousand gallons.

A. That is because there was a war industry on the line of the Watchung Water Company in those years which took a supply of water which would not be continuous and the Elizabethtown Water Company could not get their normal supply during those years.

Q. Is that war industry still running?

A. I don't know wrether it is or not.

Q. You estimate that the amount will be approximately fifty million gallons a day that the Elizabeth Company will take from the Watchung?

A. Six hundred and fifty thousand.

Q. Six hundred and fifty thousand gallons?

A. Yes.

Q. Do you think they did take that even to the extent of cutting down on their own supply of water to be furnished to Elizabeth?

A. You mean, cutting down the local supply?

Q. Cutting down the local supply, so they could purchase it from the Watchung Company?

A. No. I think they ought to furnish the local consumers all the water they have and only sell their excess to Elizabethtown.

Q. They didn't do that from January to August this year?

A. Yes, I understand they did.

Q. Didn't they cut down on their local supply approximately one million gallons and increase the amount of water they purchased from all these concerns, practically?

A. Which company now?

Q. In other words, the Elizabeth Pumping Station and the Hummocks and their Springfield Pumping Station have cut down approximately one million gallons a day over what they furnished in 1920, haven't they?

A. I believe that is correct. We have just figured that up this morning.

Q. And increased the water purchased from these other concerns.

A. They have in some cases increased the quantity of water purchased and the quantity of water that is secured from the Hummocks and the Springfield Pumping Station has been less.

Q. And the ones where the greatest proportion of increase has been made is where the price has increased the greatest, in the Short Hills Water Company, is it not?

A. Yes.

Commissioner Osborne—We went over that this morning. We went into that this morning.

Mr. Hague—I didn't know we had, from that angle.

Commissioner Osborne—It sounded to me just like the testimony we had this morning.

Q. Mr. Hill, in the book account of the Ursino Reservoir there is included the land and pumping station and pumping station equipment, is there not?

A. If you know what the account includes, I don't; I can't say. There was a blanket account in the old days, in which they chucked a little bit of everything.

Q. Is there any other account which includes the Elizabethtown Pumping Station?

A. Not that I know of.

Q. Or the land?

A. No.

Q. Then it would be assumed it is included?

A. I don't know. I am not going to say what is included when I don't know. I do know the Ursino Lake account has the elements of cost in it that are not chargeable to the Ursino Lake as part of the construction cost.

Q. I didn't hear that.

A. I say, the Ursino Lake account has elements of cost in there which are not chargeable to the construction of the Ursino Lake.

Q. The thirty-six-inch line is a part of the larger meter scheme for future supply, is it not?

A. Yes.

Q. And it is not being used now anywhere near to capacity.

A. No.

Q. What do you mean, Mr. Hill, by the permanent set; that prices will prevail indefinitely in the future?

A. Well, I mean to say that in my judgment, from a study of the price trends and the probable future conditions that I believe that prices are not going to revert to the pre-war level for some years to come, and as I

explained, and that there will be a permanent set in the prices. That is, an increase—

Commissioner Osborne—There is an approximate level reached, a level reached which will remain approximately the same.

Witness—Yes.

Commissioner Osborne—Over a period of years.

Witness—I mean, when we rid ourselves of this continuous fluctuation due to the war we will get back to the old range of prices in response to the law of supply and demand, which will be about as uniform as it was before the war, but at a higher level, permanently higher level.

Commissioner Osborne—And will so continue for a period of years?

Witness—Yes.

Commissioner Osborne—That is what you mean by a permanent set of the prices?

Witness—Yes.

Q. What do you base that on?

A. I base that on judgment and on—

Commissioner Osborne—You base it on experience and history?

Witness—Experience and statistics and the opinion and discussions with people who have made a study of things of that kind, matters of that kind.

Commissioner Osborne—You mean, what he bases the fact there will be a set on?

Mr. Hague—On his statement there will be.

Commissioner Osborne—Not on what it will be, but the fact it will be.

Mr. Hague—Yes.

Q. You say, "on history"?

Commissioner Osborne—He didn't say that, I said that.

Mr. Hague—He agreed to it. He reiterated it, I understand.

Q. What has been the previous history of prices in reference to other wars, Mr. Hill?

A. Well, after the Civil War prices remained permanently higher for some years after the war, higher than they were before.

Q. How many years?

A. Prices didn't get back to normal until the latter part of the seventies, as I recall it, and there were fluctuations, of course.

Q. Was that due to the war or was that due to the depreciation of the currency?

A. Those two things are almost inseparable. The depreciation of the currency was probably due to the war. I can't make those distinctions.

Q. The same condition does not hold now? Our currency is not depreciated, now, is it?

A. The value of the dollar has depreciated unquestionably, which amounts to the same thing as a depreciation of the currency, the same effect.

Q. Is it your opinion that prices are going to settle at forty-five per cent. higher than they are at the present time, over pre-war prices?

A. That is about my judgment of where they will land.

Q. Do you think that will continue for a period of ten years?

A. I am not prepared to say exactly how long it will continue; but I believe there will be a continuance until the improvement in the art of manufacture—until a time is allowed for sufficient improvement in the art of manufacture to offset the permanent increase which labor is surely going to demand and receive.

Q. Is it a fact the general average of all commodities is less than that at the present time?

A. I don't know that it is.

Q. Do you know it is?

A. Well, the studies I have made don't show that to be the fact.

Q. Do you know what the Bradstreet average is?

A. I haven't the figures in my head at this moment.

Q. Do you know what the Bureau of Labor's average is?

A. Not at this moment, no.

Q. Do you know what Duran's average is?

A. Not at this moment, no.

Q. Have you looked them up?

A. I have in connection with my studies.

Q. Do you think they are a hundred and forty-five per cent. over pre-war prices now?

A. No, I think they are forty-five per cent. over pre-war now.

Q. Forty-five per cent. over pre-war prices, do you think they are? You think they are?

A. Yes.

Q. (By Commissioner Osborne.) Then you think they are going to stay where they are now?

A. Practically, yes.

Commissioner Osborne—You think there will be no recession in prices?

Witness—I believe there will be fluctuations but I believe on the average for some years to come they will not fall very much below that figure.

Commissioner Osborne—You think they have reached the point there about what the average will be for the next few years?

Witness—Yes.

Mr. Hague—I think that is all.

Cross-examination, by Mr. Von Minden.

Q. Did you personally inspect the Watchung Water Company plant?

A. Yes; I have been out there.

Q. Did you inspect the reservoir there?

A. Yes.

Q. Do you consider that reservoir in such shape that it will hold water?

A. I think the reservoir is, yes.

Q. What is the construction of it?

A. The reservoir it, as I recall it, I have the exact—

Commissioner Osborne—I think that has been testified to. Is there only one reservoir in this case?

Mr. Von Minden—That is all.

Mr. Hague—We never touched on that, not Watchung; at least, I didn't.

Commissioner Osborne—How many reservoirs are there?

Mr. Hague—There are three in Elizabeth.

Mr. Von Minden—This, if your Honor please, hasn't been touched on.

Mr. Hague—The Watchung.

Commissioner Osborne—What difference does it make what the construction is; does it make very much difference? It is there. What is the point of it?

Mr. Von Minden—The only thing is I want to show it is practically worthless.

Commissioner Osborne—Practically worthless.

Mr. Von Minden—Yes.

Q. Isn't it a fact that the walls are simply mud, simply an embankment thrown up?

A. The reservoir is made with earthen embankments from excavation which was taken out from the interior of the reservoir, and it was the original intention to build that reservoir as of two compartments and only the east basin was completed. This basin has rubber masonry core wall in the earthen wall and the eastern basin was made with a concrete core and fenced.

The reservoir is an earthen embankment reservoir with material excavated from the interior thrown up with rubber core wall on the inside and lined with cement.

Q. Was there any water stored in there?

A. Yes. It was nearly full on several occasions when I was there.

Mr. Von Minden—That is all.

Commissioner Osborne—Colonel Betts, are you ready?

Mr. Wherry—If it please the Commission, before Colonel Betts begins his cross-examination, I would like to call attention to page 36, *Exhibit P-5,* which contains a discussion of the allowance of return as between local consumers in Watchung and the Elizabethtown Water Company, showing an increase was made for the abnormal use of water by the local consumers at one time. I just want to refer to that exhibit so when we come to examining the record you will have it in connection with page 14 of *Exhibit 1.*

Cross-examination, by Mr. Betts.

Q. In the questionnaire, in answer to question 4, page 42, it appears you have already testified that the cost of organization has not increased. Have you taken that into account in calculating the cost of organization when the basis to which the percentage was applied was the war time basis of cost?

A. What page is that?

Q. Question No. 4.

A. I thought you said page 22.

Q. Page 42.

A. No. 42?

Q. You have already testified that the cost of organization has not increased. If the cost of organization was taken as a percentage on a base, and that base was this inflated war time base, wouldn't this percentage have been smaller?

A. Well, I don't know that it necessarily would. These overhead costs are apportioned as a per cent. for convenience, and I believe that the increased cost of organization, the increase in salaries that are to be paid and the expenses that are to be paid in conjunction with organization would pretty well keep pace with other increases in price levels.

Q. But you have already testified that the cost of organization had not increased.

A. I didn't mean to say—if I said that I didn't mean to say there was actually no increase in the cost of organization. I don't remember saying it.

Q. On page 57, first paragraph, it indicates an assumption that common labor was paid for at the rate of fifty cents per hour. There is a chart given on page 32 which refers to the cost of common labor in New York City at forty-five cents an hour. What are the present rates paid for common labor?

A. Well, the Elizabethtown Water Company at the present time is paying their labor, I understand, fifty cents per hour. The common labor, as I recall it, is very spotty. We are paying at some points fifty cents, fifty-five cents an hour, and I think I testified in my direct examination that the Hackensack Water Company, as I remember it, at the Oradell Dam Works, was paying about thirty-five or forty cents an hour. I don't know what the Commonwealth is paying at the present time for common labor.

Q. Well, is common labor, as employed by the water company, any different from so-called common labor employed generally?

A. Sometimes it is. Usually a water company has a certain number of men who are classed as common labor, who do become sufficiently skilled to do things other than ordinary common laboring work, and they pay those men a little more in order to hold them and have them there to do things.

Q. That is in the ordinary conduct of a water company; but in this case we are considering the appraisal of the water company; water property is all supposed to be general, under a general contract?

A. Yes.

Q. In other words, running the work in bulk with a large number of men employed at once, in a case of that kind common labor would correspond with that amount of men employed on the Wanaque Dam, for instance?

A. Yes, I misunderstood.

Q. Or the number of men now employed on the Lackawanna elevation?

A. I presume the same class of labor.

Q. But you don't know the amount of wages paid at the Wanaque Dam, you said?

A. No, I don't.

Q. Page 82, in answer to the question, there, question 37, what percentage was included in the cost of financing under the head of interest during construction; you state there no specific allowance for cost of financing has been included, but you have assumed this money to be obtained at the rate of six per cent. On table 17-D, *Exhibit P-4,* referring to the valuation of the plant generally, the next to the last column, you have headed "interest during construction including cost of financing"; does that take into account bond discount, or just how is it worked out?

A. No. That, I think, Mr. Betts, was a misleading head. It was an old head caption which I used and was not changed. We made no specific allowance for cost of financing. Simply assumed money could be obtained at six per cent. I think that is simply carried over from—

Q. In other words, you haven't included in here the so-called cost of financing?

A. No.

Q. But your aggregates are supposed to represent the amount of money required, is that the idea?

A. Yes.

Q. And not the face value of any securities that may have to be issued to get that amount of money?

A. Well, I presume you could look at it that way. What I have tried to do is establish a rate which I thought was a low rate at which this company could secure its money for financing an undertaking of the kind.

Q. The question in regard to the depreciation: The accrued depreciation you estimate on a sinking fund basis, is that correct?

A. Yes; practically so.

Q. And the annual allowance for depreciation was estimated on a straight line basis.

A. No.

Q. On an annual allowance basis?

A. Rather on an annual allowance basis, I should say.

Q. Why shouldn't that be worked up on the same basis?

A. Well, in my judgment, the annual depreciation reserve is not necessarily governed by the annual rate at which the accrued depreciation has accumulated. I think you might get very misleading results by assuming that, under certain conditions. I base my judgment on what the annual reserve for depreciation should be, more on what has been allowed in other cases, by this Commission and other Commissions, and bringing the experience of other companies as to what to set aside as an annual reserve for depreciation and taking into consideration the conditions in which this company is found, which I think is probably the more practical way of doing it.

Q. Some of the elements in this company's property are pretty old?

A. Yes.

Q. For instance, the Elizabethtown Pumping Station is pretty old. Some of the items, are still in operation.

A. Yes.

Q. What affect has the necessity, which has now been determined to be a fact, for developing a new and much greater source of supply, on the existing pumping station?

A. My judgment as to the condition of the Elizabethtown Water Company in that respect is this: The new source of supply is going to be some miles away and the City of Elizabeth will be furnished through a pipe line, remote from the source of supply. I am of the opinion that they, for two reasons, are going to be compelled to maintain the sources of supply which they now have adjacent to Elizabeth; as a reserve in case of

breakdowns and also for the reason that the variation in the hydraulic grades on that long line, due to variations in pumpage at different times of the day, will make it necessary to reserve the Elizabeth Pumping Station as a balance to make up the hourly or short fluctuations in load. I haven't worked out the details, but that is—

Commissioner Osborne—Then the Elizabeth Station will be used to supplement the new supply?

Witness—Yes.

Commissioner Osborne—Either by using it at the same time to make up the hourly fluctuation of the load or as an operating unit.

Witness—Yes.

Q. You say it will be necessary to retain the Elizabeth Pumping Station. Just take that station alone: What maximum pressure would that station be capable of supplying with its present machinery?

A. Well, I think the machinery there—I would have to look that up, Mr. Betts—but I think the machinery there is capable of standing a higher pressure than the local distribution system with the cement mains. But in any event, I believe (to come to the point you are making more directly), I believe, in conjunction with the development of the Raritan supply, it is going to be necessary for the Elizabethtown Water Company to fill those local stations so they will meet whatever pressure demands they install under their new system. In other words, I think that when this plan is taken it has got to be taken up as a whole. It won't be simply going over and building a pumping station at the Raritan River; but you must take into account other features of the plant, which will have to be adjusted to give the service.

Q. If the pressure from the new pumping plant near Bound Brook was, for example, say, twenty pounds, with the same flow that is now there, wouldn't that absolutely stock the plant in Elizabeth?

A. No; I don't think so. I don't recall exactly, but I think the pumping at the Elizabeth station, my recol-

lection is that they are capable of pumping against a higher head than they are now pumping against. In other words, they could raise the pumping in Elizabeth were it not for these cement lined mains. That is the controlling factor.

Q. Regarding that: Have you ever made any investigation of those cement lined mains? What I mean is, is there any proof anywhere that this pressure couldn't be raised five pounds without touching those cement lined mains?

A. I haven't made any test myself, but I have understood from those who operate the company that there is a limit to the pressure which they can put out for that purpose. I have made no trial to raise the pressure, to see how many of the mains would burst or anything of that kind.

Commissioner Osborne—To improve the service all of those mains have to be taken out and replaced.

Witness—They have been getting rid of them. I figured they would be gotten rid of in the next five or six years.

Q. Take that old plant in Elizabeth; the present value of that was determined on a condition basis, wasn't it?

A. Yes.

Q. Will that be entirely consistent with the depreciation on an age basis.

A. Not always; no sir.

Q. Will it be in connection with a unit like that which probably would have to be scrapped immediately, immediately after the Bound Brook plant was started?

A. I don't think that contingency would necessarily follow. If you assume it is going to be scrapped immediately, I don't see how you can estimate in advance the depreciation that will accrue next year or the year after or the year after that. The only thing you can do is to take the unit and value it on a fair basis and depreciate it and find out what its present worth is. If you are going to anticipate replacement in the future it

makes it rather inconsistent and difficult to valuate at any one time.

Q. In your estimate as to the annual depreciation, the annual allowance required, didn't you take into account the fact that parts of this plant were depreciating on account of the obsolescence and that sort of thing, the coming obsolescence, they were depreciated at a somewhat higher rate.

A. Yes, I did.

Q. And in connection with that you called for a larger allowance per annum; but is that taken into account when you estimate the value of such units on a condition basis?

A. I don't think the place to do it is to take it into account on a condition basis, necessarily. What I have done is to place on the units now installed what I consider a fair service value, on the price levels assumed, and that being done with then I estimated what will be the proper annual reserve for depreciation in the future.

Q. There are a few questions as to going value. Does an increase in the cost of the tangible property necessarily mean any increase in the going value, if going value is based on some assumption as to lack of earnings in the early years?

A. No. I don't think it would necessarily, except the natural depreciation or inflation of value of the dollar, as the case may be.

Q. Would an estimate as to the value then, based on pre-war units, would an estimate as to the going value be a lower value then or does the going value increase proportionately as the unit value goes up?

A. Well, that is a rather difficult question to answer.

Q. In other words, in this present appraisal you are arriving at a valuation based on a trend in prices.

A. Yes.

Q. That trend is at a point—it was assumed to be at a point considerably higher than it was, we will say, ten years ago. Now, is an estimate of the aggregate

value, including the going value, does that include an estimate of going value on a higher basis?

A. Well, I think the question might be debated. I think for the purpose of getting a rough estimate of the variations in the value of a plant as a whole you wouldn't be very far wrong in assuming that the whole plant varies as the price level varies. But coming to a specific instance; I think some question might be raised, depending on the point of view a person takes as to going value, as to whether the going value should be increased in proportion to the remainder of the plant.

Q. I think that is tied up with this next question: If, in calculating the gross revenue that would have to be obtained in order to meet operating expenses, taxes, insurance, allowance for depreciation and a return upon the valuation, if that aggregate sum was greater than the management of the company thought it wise to try to collect and because of that preferred to increase the rates to a lesser extent, what affect would that have so far as going value. In other words, assuming a basis of valuation, operating expenses, taxes and insurance and depreciation and a return at some percentage, some rate of return on that assumed value; assume for the moment that involved or would involve an increase in the existing rate of about seventy-five per cent. Now, in studying over the matter the managers of the company felt it wouldn't be wise to increase the rate above, more than fifty per cent. above the existing rate, feeling that any greater increase would hardly be collectible or would interfere with the business itself. What affect would that have on the idea as to going value?

A. Well, that depends on your conception of going value. If you regard going value as the element of added value due to the company's established income or you consider it from the viewpoint of the time required to build up a comparable income with the new company, under the circumstances and in the same way, naturally going value would be reduced. If you considered it from the speculative viewpoint of a willing

purchaser, what he would be willing to pay a willing seller for a property, regarding it on the basis of what it would earn, it would reduce the going value that the willing purchaser would be willing to pay.

If you regard it on the accumulative deficit basis, and it is admitted that if this company voluntarily refuses, voluntarily gives up a portion of its income for the time being so as to establish a rate which is not near what the traffic will bear, it might be assumed that those losses or deferred earnings, deferred deficits and earnings could be accumulated on the basis of the cumulative deficits period, and it might tend to increase in the end the intangible value of the property.

I think it is pretty hard to say definitely in a given case.

Q. Isn't value then, after all, what one would pay for a thing?

A. Well, I think we can't—we are debarred from taking that basis of value.

Mr. Betts—Will there be any objection to our making use of some of Mr. Hill's notes that he, I understand, is willing to let us go over.

Mr. Wherry—Not the slightest.

Commissioner Osborne—What is that?

Mr. Betts—Mr. Hill has a lot of notes on which he has developed unit prices and so on. I understand he is willing to let us examine those notes.

Commissioner Osborne—That don't have to be done at the hearing.

Mr. Betts—Not at the hearing. I want to see if there is any objection to making use of those notes for whatever value they may be.

Commissioner Osborne—You want to check up his unit prices through the examination of his basic notes?

Mr. Betts—Yes.

Commissioner Osborne—There is no objection?

Mr. Wherry—No.

Commissioner Osborne—I think you will have no difficulty in reaching an agreement as to them.

Witness—If Mr. Wherry has no objection I haven't.

Mr. Betts—That is all.

Further cross-examination, by Mr. Hague.

Q. As to the Elizabethtown Water Supply, that is, the supply from the Elizabeth River, Ursino Lake or reservoir; do you know whether that system wasn't recommended by the State Board of Health to be abandoned because of the water not being proper for drinking purposes?

A. Before the filter plant was installed, the State Board of Health recommended the abandonment of that supply, but they approved the supply with the filter plant installed.

Q. Hasn't there been considerable complaint because of that water supply even since the installation of this plant?

A. If it has, I don't know of it.

Q. Hasn't it been a source of investigation from time to time by the Elizabeth Board of Health as to children and intestinal trouble?

A. There have been investigations, but I know of no case where any intestinal trouble has been traced to this supply.

Commissioner Osborne—What has that to do with this inquiry?

Mr. Hague—He is keeping it for a reserve supply.

Commissioner Osborne—I assume the State Board of Health has control over that and wouldn't permit it if it is not proper to use.

Mr. Hague—But there is no other supply.

Commissioner Osborne—That is up to the State Board of Health.

Mr. Hague—Presumably so, but it affects the service if they were to shut off that supply and this treating plant were put in by reason of the condition of the water.

Commissioner Osborne—If the State Board of Health permits them to use the water—

Mr. Hague—I think that is pertinent to the issue. A poor quality of water and a poor service surely isn't the same rate of return as proper service and a proper supply of water.

Commissioner Osborne—I am not talking about service. I am talking about quality.

Mr. Hague—Quality also; that is part of service. Isn't that part of service, the quality of water?

Commissioner Osborne—I take it any quality of water which the State Board of Health passes, and which you have been accepting, meets the situation. I can't see how it is going to make any material difference in this case.

Mr. Hague—It will make probably before this case is over, it will enter largely from this standpoint: If this new source is developed, as Mr. Hill assumes in the cross-examination by Colonel Betts, he has mentioned the fact that the Elizabethtown Station would be maintained, rather in his opinion should be maintained as a reserve station. I think it is proper to show the quality of the water at the present time, or what it has been there, but I won't press that except one more question.

Q. Isn't the watershed at the Elizabeth River quite densely settled?

A. Yes, it is.

Commissioner Osborne—They wouldn't use that supply unless they had to?

Mr. Hague—No, sir; no one else would.

Mr. Wherry—May it please the Commission, I have here the certificate of the enforcement of

the franchise tax for 1920 and also for 1921. The question was raised as to the portion on Q-15-C, what is was based on. If there is any point about it, I will put in the exact figures from that certificate.

Mr. Hague—If those are actual figures, I have no objection to their going in.

Mr. Wherry—Do you want them in?

Mr. Hague—I don't care whether you want them in or not.

Mr. Wherry—Table T-52 contains the franchise tax of $27,739.45; that is the certificate of apportionment for the year 1920.

Commissioner Osborne—That is based on the income for 1919?

Mr. Wherry—Based on the income for 1919.

Mr. Hague—The other one is based on the income for 1920?

Mr. Wherry—Exactly.

Commissioner Osborne—Put them in so there will be no confusion.

Mr. Wherry—And table Q-15-C is the proportion of the franchise tax for 1921, for the period there stated—$33,397.

Commissioner Osborne—Have you any other witnesses?

Mr. Wherry—Yes.

Commissioner Osborne—Have you anything to put on?

Mr. Wherry—I have the real estate expert to put on.

Commissioner Osborne—I thought you did that yesterday.

Mr. Wherry—We didn't get through. One was on all day. One witness was sick and another witness we did put on didn't qualify as to certain of the tracts.

Commissioner Osborne—Then you are not through?

Mr. Wherry—I am not through.

Commissioner Osborne—Have you anything to put on to-day?

Mr. Hague—Your Honor, we would prefer not to go on; we are not prepared but will be at the next hearing to go on with the direct examination.

Commissioner Osborne—I understand you are all through except the real estate?

Mr. Wherry—Yes.

Mr. Betts—Did Mr. Hill testify directly as to the cost of operation, revenues required and so on?

Mr. Wherry—It is in the exhibits only.

Mr. Betts—It is in the exhibits only; that is what I thought. Do you know whether he worked this out in detail?

Mr. Wherry—It is worked out there, Colonel Betts, in some of the exhibits, but if you want some additional exhibits we will be glad to supply them. If you will let me know what you want we will give it to you. The rate we have filed doesn't put the inch-foot system into effect.

Commissioner Osborne—Doesn't put what into effect?

Mr. Wherry—The inch-foot system of charging.

Commissioner Osborne—How soon will you be ready with your witnesses?

Mr. Wherry—I can be ready by next week.

(Discussion as to date of adjournment.)

Commissioner Osborne—We will fix Thursday, December 8th, at Newark. You will be prepared to close your case then?

Mr. Wherry—I will be prepared to close my case.

Commissioner Osborne—You will be prepared to go on with your case that day, if there is time?

Mr. Hague—Yes, we will be prepared to go on.

(Adjourned until Thursday, December 8th, at the Kinney Building, Newark, N. J., at 10:45 A. M.)

BOARD OF PUBLIC UTILITY COMMISSIONERS.

NEWARK, N. J., Thursday, December 8th, 1921.

Elizabethtown Water Company et al., Application for Increase in Rates Elizabethtown Water Company, Watchung Water Company, Piscataway Water Company and Raritan Township Water Company, Increased Rates.

Before Commissioner Harry V. Osborne, Esq.; P. Betts, Esq., Chief Inspector; H. E. Carver, Esq., Inspector.

For Petitioners appears: W. M. Wherry, Esq., and Thomas H. Wight, Esq.

For the City of Elizabeth appears: Joseph T. Hague, Esq.

For Piscataway Township and Borough of Dunellen appears: R. P. F. Von Minden, Esq.

Thomas B. Van Syckel, sworn on behalf of Petitioners.

Commissioner Osborne—What is the nature of this testimony?

Mr. Wherry—This is as to real estate. We furnished a list of the real estate appraisals that we had taken and when Mr. Lyman, who has bought a lot of real estate rights of way for the company, went on, he could not qualify within the technical, narrow rule, that he had not bought or sold in the immediate neighborhood. That is, he might come right up to the line between

Piscataway and Middlesex Township but he could not go across the boundary, and to supplement his testimony, we will call these other experts who have also bought for the company and who are also familiar with it.

Mr. Hague—That is not quite so in all instances. That did not apply to the rights of way in Elizabeth or Linden. You only have reference, I think, to Bound Brook.

Mr. Wherry—He bought and sold rights of way.

Commissioner Osborne—Are you talking about this witness?

Mr. Hague—No; the witness who was disqualified.

Commissioner Osborne—Well, he was disqualified, was he not?

Mr. Hague—Yes, but Mr. Wherry was—

Commissioner Osborne—It does not make any difference, if he was disqualified, that is the end of it.

Direct examination, by Mr. Wight.

Q. What is your business?

A. Real estate.

Q. How long have you been in that business?

A. Twenty-one years.

Q. In what place?

A. Bound Brook.

Q. Have you, in the conduct of your business, bought and sold properties or real estate in and about Bound Brook and throughout the adjoining communities?

A. I have.

Q. Turn to what is called Parcel No. 70, 12.30 acres, at the Piscataway Pumping Station. That is diagram No. 27.

A. (Witness refers to papers.)

Q. Now, Mr. Van Syckel, what is the fair and reasonable value of those 12.31 acres?

A. Fourteen thousand dollars.

Q. That is, at twelve hundred dollars an acre, yes.

A. About twelve hundred dollars an acre, yes.

Q. Have you bought and sold lands near here, within five hundred feet of this property?

A. Yes.

Q. And you base your appraisal of this property upon those purchases and sales?

A. I do.

Q. No. 71, 6.7 acres. What is the fair and reasonable value of that property?

A. Eight thousand dollars.

Q. And this property that you have bought and sold has been within a short distance of this particular parcel?

A. Yes, sir; it has.

Q. And you place your valuation of this property upon those purchases and sales that you have made?

A. I do.

Q. No. 72, 3.7 acres. What is the fair and reasonable value of that parcel?

A. Six thousand dollars.

Q. That is on the basis of sixteen hundred dollars per acre?

A. Around that; yes.

Q. Do you base that also upon sales and purchases that you have made in the neighborhood?

A. I do.

Q. No. 73, 2.083 acres. What did you value that at? What is its fair and reasonable market value?

A. From twenty-five hundred to three thousand dollars. Do you want a specific value on that?

Q. The fair and reasonable market value.

A. $2,500, I would say.

Mr. Hague—Which one is that?

Mr. Wight—No. 73.

Q. That is also based upon sales and purchases made there?

A. Yes.

Q. Seventy-four, a parcel containing .5464 acres. What is its present fair and reasonable market value?

A. Six dollars a running foot.

Q. What is the value of the tract?

A. How long was that? Two hundred paces; it was thirty-six hundred dollars.

Q. Your appraisal of that is thirty-six hundred dollars?

A. Yes.

Q. What did you use in arriving at this appraisal? What determined that valuation of thirty-six hundred dollars?

A. The price paid for it. I sold it. And the other, the damage it does to the adjoining and abutting property.

Q. You say you sold it?

A. I did.

Q. Explain that with more detail.

A. I sold that for the R. V. Pierce Estate to the Water Company.

Q. When was that?

A. Three or four years ago. I cannot tell you exactly.

Q. And was this strip sold together with No. 75?

A. Yes, it was.

Q. For what were they sold? Were they both sold together?

A. Yes.

Q. For what?

A. A round figure of seventy-five hundred dollars.

Q. Now you say you have also considered the damage done to the adjoining property?

A. Yes, adjoining or abutting property.

Q. Explain that more in detail.

A. Well, I mean property that might come in the market for development and cutting up in lots—it would be ruined right at that point, to have a right of way across it—for building, or streets for that matter.

Q. Have you considered other purchases you made at that point in arriving at the valuation of this strip?

A. Certainly.

Q. Now, turn to Watchung, parcel 76, an appraisal of 67.061 acres. What is your appraisal of the fair market value?

A. $250 an acre. It amounts to $16,765.

Q. Have you bought and sold property near this acreage?

A. I have.

Q. Right near it, within a short distance?

A. Within 500 feet of it.

Q. Have there been sales of several tracts made by you?

A. A number of them, within three-quarters of a mile or a half mile, and some of them within five or six hundred feet.

Q. Have these sales been within the past two or three years or less?

A. Within three or four years.

Q. Some of them less?

A. I cannot give you the specific dates. No; I do not think any of them have been less than three years.

Q. Was there a parcel of eleven acres that you sold within the past year?

A. No; a couple of years ago I sold a tract of mountain land similar to this eleven acres for four thousand dollars—within a quarter of a mile.

Q. Now, turn to Watchung pumping station tract, ten acres.

A. What is the number?

Q. 77.

A. Yes, I have.

Q. What did you appraise this property at? What is its present fair and reasonable market value?

A. $500 an acre, or around $5,000.

Q. You have bought and sold property near here?

A. Yes.

Q. Several sales have been made near here?

A. Several within the last three or four years.

Q. And your appraisal is based upon those sales?

A. Yes.

Q. Now, turn to parcel No. 68, 2.08 acres. What is its present fair and reasonable market value?

A. Fourteen hundred dollars.

Mr. Hague—Just a second. May I ask the witness a question at this time as to his qualication on this particular question?

Commissioner Osborne—Yes.

Q. (By Mr. Hague.) Have you sold any land in this vicinity?

A. I have, within four or five hundred feet—within less than four hundred feet.

Q. Which direction?

A. North.

Q. How far from the river?

A. Four or five hundred feet.

Q. Upon the main highway?

A. Yes.

Q. That is an entirely different character of land, isn't it?

A. Of course—to some extent it is, yes.

Q. Have you sold any along the river?

A. No, I have not, not touching the river. Do you mean right there at that point?

Q. Not at that particular point, but within a reasonable distance on either side—right on the river, I mean.

A. Within a third of a mile, yes.

Mr. Hague—I do not think this witness is qualified to testify as to this particular land.

Commissioner Osborne—Why not?

Mr. Hague—Because he has not sold any along the river, and it is of a different character.

Commissioner Osborne—He just said he sold it within a half mile of the river.

Mr. Wight—Within five hundred feet.

Mr. Hague—He did not say within five hundred feet, on the river.

Q. Did you?

A. It may be a little more than five hundred feet, but within five or six hundred feet, going toward New Brunswick. That would be southeast.

Q. On the river?

A. Yes, on the river.

By Mr. Wight.

Q. You stated that in your opinion a fair and reasonable market value of this tract is fourteen hundred dollars?

A. I did.

Q. Now, take tract No. 69.

Mr. Hague—How much was No. 68 an acre?

A. I put a flat value of fourteen hundred dollars on that. I figured around seven hundred dollars an acre and I imagined some of it was under water. I figured on two acres being there.

Q. Now, No. 69, six acres. What did you find the fair and reasonable market value of that tract to be?

A. The land only, six thousand dollars.

Q. An acre?

A. Yes.

Q. Have you bought and sold lands near this tract?

A. Within two hundred and fifty feet.

Q. And you have made several sales of property near there?

A. I made one within 250 feet and others within five or six hundred feet.

Q. Have these sales been made recently?

A. Within two or three years, yes.

Q. Now, turn to No. 70, Piscataway Water Company, 12.31 acres—oh, you did give that.

A. I guess I gave that.

Q. Take parcel No. 63, 2.27 acres, at and below the junction of the Raritan and Millstone Rivers.

A. 63?

Q. Yes; 2.27 acres.

A. I have it.

Q. What did you appraise that at?

A. $200 an acre.

Q. A total of how much?

A. About four hundred and fifty dollars, I should imagine.

Q. Now, have you sold property for factory sites near this parcel?

A. Yes, within a quarter of a mile.

Q. And have you sold any there within the past few years?

A. Yes.

Q. And your valuation is based upon that experience?

A. As well as a number of other sales in the immediate vicinity with which I have had knowledge or had to do with.

Q. Now, parcel No. 64, 55.75 acres. What is the fair and reasonable market value of that tract?

A. About $210 an acre, I should imagine.

Q. What does that make your total?

A. That would be about eleven thousand and seven hundred or twelve thousand dollars.

Q. Have you bought and sold property near this tract?

A. Yes, sir.

Q. Within recent years?

A. Within the last two or three years.

Q. No. 65, 120.63 acres. What is the present fair and reasonable market value of that tract?

A. $250 an acre.

Q. A total of how much?

A. Around thirty thousand dollars.

Q. Have you also sold property near this parcel?

A. Naturally, yes. It joined that, very near.

Q. Now, 66, 55.87 acres. What did you appraise that at? What is its fair and reasonable market value?

A. Three hundred dollars an acre.

Q. Making a total of about how much?

A. Around $16,761.

Q. That, too, is near these other properties which you say you have sold?

A. Yes, I imagine a third of a mile.

Q. Have you sold there within the past three years?

A. Within two or three years.

Q. Take No. 67, 2.03 acres. What is the present fair and reasonable market value of that?

A. A thousand dollars.

Q. Now, that too is near these other properties which you have sold in recent years?

A. Yes. That is within 250 feet of property that I have sold.

Mr. Hague—Is that a thousand dollars per acre or—

Witness—No; for the plot.

Q. That is about five hundred dollars an acre?

A. Yes—I do not know just what acreage there is in that. I know there is twelve hundred paces there but —no; wait a minute. There is six hundred paces there and it averages from 65 to 100 feet wide, but I could not tell just where it began or where it ended. I had to take that from the map.

Q. Now, I show you the contents, 2.03 acres. You still say it is worth a thousand dollars?

A. Yes.

Q. And you base it upon the sales you have made there that you speak of?

A. Yes.

Q. Now, turn to number 56, an easement, 594 feet long.

Mr. Wherry—Before you begin to ask that, Mr. Hague wanted to know with regard to these easements. You asked me a question with regard to these easements, Mr. Hague.

Mr. Hague—To see whether they were subject to any other rights.

Mr. Wherry—Yes, and this is one of those that is.

Mr. Hague—Is this parcel No. 56?

Mr. Wight—Yes.

Mr. Hague—Elizabethtown?

Mr. Wherry—This one is not subject, but the ones that are subject—the easements on the lands in this exhibit that we have put in, headed "Rights of way, Bound Brook main, parcels No. 1 to No. 10;" and No. 25, inclusive, where there are easements on the lands, the owner of the fee has a right to use the surface for cultivating purposes.

Mr. Hague—Does the fee remain in the owner, and the right is to lay a main under it?

Mr. Wherry—To lay under there, and with the right of access to it, and the owner retains the right to cultivate the surface.

Commissioner Osborne—Of course, he has whatever right she has not granted.

Mr. Wherry—Yes, but in some of the others he agreed not to cultivate the land, to let them have access to it.

Commissioner Osborne—I supposed that in granting the easement to lay pipes and have that access to them, he would have no further reservation of the right to cultivate his land.

Mr. Wherry—Yes. In some of the others he retains the right.

Commissioner Osborne—Specifically?

Mr. Wherry—Yes.

Mr. Hague—This appraisal is submitted of these rights of way for the valuation placed on them as if the fee of the land was owned by the water company, and what they would sell for to an outside purchaser?

Mr. Wherry—Mr. Lyman said he considered them worth the same, whether they were an easement or a fee, because he did not think you could give an easement any cheaper than the fee.

Mr. Hague—I did not understand him.

Mr. Wherry—That is the way I understood his testimony.

Mr. Hague—Mr. Lyman was a little bit hazy as to his understanding of what an easement or what a fee was, and he later, I think, in response to Mr. Herrmann's question, said he took it as a matter that could be sold by the water company.

Commissioner Osborne—You want to put in evidence to the contrary when you put in your case, on this subject?

Mr. Hague—I think it is up to the water company to furnish their proof in their direct case, on this.

Commissioner Osborne—They have furnished it. They say they furnish it through the witness upon whose testimony they stand, to the effect that it would make no difference. That is the uncontradicted testimony in the case put in by the water company. I understand that would stand and be taken unless you put in something to the contrary.

Mr. Hague—I asked, informally, of Mr. Wherry if he would let me know which ones of the rights of way were just an easement and which ones the company owned the fee in, and whether if they had a right of way they still reserved the right to pass over it for a track or a railroad or something of that kind, and what he stated this morning was in response to that request, and now that changes in conditions as set forth in this exhibit in so far as it applies to the rights of way, and also their testimony produced on these particular properties.

Commissioner Osborne—You see that it was brought to the attention of thir expert, and Mr. Wherry says the same, and that the expert said it would not make any difference whether they had the fee or not. If that is in the testimony, Mr. Wherry is correct. If it is not in the testimony, you are correct. The testimony itself will indicate that.

Mr. Wherry—Well, I may be mistaken and Mr. Hague may be right.

Commissioner Osborne—I should imagine that what you both better do is to look at the testimony of this witness and see what the fact is. That is, to see what he testified to, and if he testified in a manner that is contrary to your recollection, correct it.

Mr. Hague—I want to get before your Honor's mind that these statements as set forth and shown by Mr. Wherry are not correct. I want to impress that upon your Honor's mind, that these valuations put in by him are not correct, as to these particular numbers.

Commissioner Osborne—Well, you admit that, Mr. Wherry?

Mr. Wherry—Yes.

By Mr. Wight.

Q. Take parcel No. 56, Mr. Van Syckel, an easement, 594 feet long. What is the fair and reasonable market value of that easement, that strip?

A. Twelve hundred dollars. I figured it at two dollars a running foot.

Q. You have bought and sold property in the neighborhood of this strip?

A. Yes; within 500 feet of it or maybe less.

Q. Now, tell me on what do you base that two dollars per running foot valuation?

A. Well, on the value of the land abutting it. That is about right in front of the road or street, and that land will be right for development—it is now for that matter. No one would buy with the right of way running across that property. Therefore, being a damage to the property, would make it valuable enough for the owner of that property to again purchase it at some future time, or at the present time. That is the way I would look at it.

Q. No. 57, an easement seventy feet long. What is the reasonable fair market value of that strip?

A. I did not look at that, and I cannot answer it for that reason. I should say it is about $150 or $1.50 a foot.

Mr. Hague—I ask that be stricken out. He said he did not know.

Mr. Wherry—I will consent to it.

Commissioner Osborne—It is stricken out by consent.

Mr. Wight—That is all.

Mr. Wherry—You may cross-examine, Mr. Hague.

Cross-examination, by Mr. Hague.

Q. Mr. Van Syckel, how much of this property that you have testified to have you actually sold or bought for the water company?

A. I don't know. There are several pieces. I could count them up.

Q. Point out which pieces you bought, starting with the first number which you have testified to, I think No. 63. Did you buy No. 63 or sell No. 63 to the water company?

A. No—wait a minute, before I answer that. (After referring to papers.) No; I did not.

Q. Do you know what was paid for it?

A. I do not.

Q. Now, parcel No. 64. Did you buy or sell that?

A. I did not.

Q. And 65?

A. No.

Q. 66, 67?

A. No.

Q. 68, 69?

A. No; none of those.

Q. Parcel No. 70. Did you buy that or sell it?

A. Yes; I sold that to them.

Q. What was the purchase price?

A. I cannot say. I don't recollect.

Q. When did you sell it?

A. It must be 1913, I imagine.

Q. Well, about the nearest to your recollection, what was the price of it?

A. I haven't the slightest idea.

Q. Don't you know what the property is worth there in that neighborhood in 1913?

A. I suppose it has trebled in value since then.

Q. Don't you remember what it was worth about 1913, when they purchased it?

A. Absolutely no. That is, what they paid for it. I might tell you what it was worth. I presume it was worth one-third of my valuation to-day on it, from one-third to forty per cent.

Q. Did you buy or sell No. 71?

A. Yes.

Q. What was paid for that?

A. I do not know. That was bought at the same time.

Q. And how about No. 72?

A. That was at the same time, but I don't recollect about that.

Q. And 73?

A. No; I did not sell that.

Q. 74 or 75?

A. Yes; I sold 74 and 75.

Q. Do you remember the price paid?

A. Yes; those two were sold together, and the price in round figures was $7,500.

Q. When were they bought, at the same time?

A. No; much later. That was only two or three years ago, I think. I am not postive on that.

Q. You said you remembered the price of those but not the price of the others.

A. I was talking to the man who sold them, yesterday—Pierce.

Q. And he told you?

A. Yes, and I remembered it. There were two pieces sold for fifty-six hundred and some dollars, and later a

little piece to straighten something out. In round figures it was seventy-five hundred dollars. I wanted to be corroborated on that.

Q. Why didn't he try to be corroborated with the other pieces?

A. I was not interested. I did not know it.

Q. You knew he was willing to testify to them, to their value, to-day?

A. But these others were sold so recently it was right within my recollection. I suppose I have sold five hundred pieces since those.

Q. How long ago were 74 and 75 sold?

A. I should imagine two or three years, or a shorter time.

Q. You knew you were going to testify as to the other pieces, too?

A. Yes.

Q. You made no effort to find out what they were sold for?

A. If you wish me to come back to-morrow I can tell you exactly.

Q. But you know they sold for forty per cent. of what you value them at to-day?

A. I imagine they did.

Q. What is the nature of that land?

A. Part of it is meadowland.

Q. Is not practically all of it meadowland?

A. Some of it has been filled in.

Q. Referring to parcels 70, 71, 72 and a portion of 73. What is the character of those?

A. It is low.

Q. Isn't practically all of it?

A. All but what has been filled in.

Q. How much of it has been filled in?

A. Tract No. 72 has been filled in along Union Avenue there for a hundred feet, I should imagine.

Q. In the spring of the year when the freshets come along there, isn't the whole land there under water?

A. A good part of it I imagine is.

Q. Practically all of it, except a hundred feet, which you say has been filled in?

A. I cannot say as to that. I do not know as I have ever seen it covered with water.

Q. Have you ever been there in the spring of the year?

A. Well, yes, but I have not seen it all under water.

Q. Isn't that where the brook comes under the railroad bridge just before you enter Bound Brook?

A. That is the same tract, but it is half a mile farther away we are talking about now.

Q. But it is the same brook?

A. Yes.

Q. Take that property all the way along that brook, clear down by the railroad, isn't it flooded down there, a good part of it?

A. I should imagine it would be, more than fifty per cent. of it.

Q. Well, don't you know?

A. No.

Q. It is every part, isn't it?

A. Not under water.

Q. How long have you lived in Bound Brook?

A. All my life.

Q. Have you ever been down there in the spring of the year?

A. Yes.

Q. Have you seen it?

A. I have never seen it all under water.

Q. Well, practically all under water.

A. A good part of it under water.

Q. I have seen it myself.

A. Well, maybe more than I have.

Q. How much of parcel No. 73 is under water and how much is high land?

A. Well, there is a part of it there, I suppose one-third of it would be high land. When you say "high land" what do you mean, level with the street, with Union Avenue?

Q. Yes.

A. Well, I imagine then about one-half will be high land.

Q. Have you noticed the street called Prospect Place?

A. Yes.

Q. It that high land?

A. That is higher than this piece.

Q. Is that filled in ground or natural surface?

A. A good part of it is filled in.

Q. A part of that tract colored yellow, No. 73, if you continue down Prospect Place—

A. Where do you mean? My tract is not colored in yellow.

Q. Well, then, part of 73, if you continued Prospect Place across that, wouldn't it be high ground there?

A. Only a few feet. Across the road for a few feet it would be reasonably high land.

Q. And the rest of it would be low?

A. The rest of it would be low.

Q. And would the property on the right and left hand side of the street be low?

A. Yes—If that street was continued you mean?

Q. Yes.

A. Yes.

Q. In other words, the better portion of parcel 73 is low land?

A. Yes.

Q. What is the condition of parcel 74?

A. That is low land.

Q. In its entirety?

A. Yes, I think so.

Q. And parcel 75?

A. 75 is level with the street, pretty near.

Q. Is there business down at that section, parcel 75?

A. There is a garage right opposite that piece.

Q. There is a garage across the street, adjoining this parcel 74?

A. No; you are talking about 75.

Q. You say there is a garage across the street from 75?

A. From 75.

Q. What street do you mean?

A. Main Street.

Q. Then does that adjoin parcel 74, the garage?

A. I do not know whether it touches it or not. The land touches that that they own, but I don't think the building does. I think there is twenty feet or more in there.

Q. Is there a pumping station in there?

A. No, none that I was in.

Q. Where is the Piscataway pumping station?

A. On tract 72. It is on Union Avenue.

Q. That is where a portion of it is filled in—is it filled in for the pumping station?

A. I think just some debris they filled it in with, level with the street.

Q. Do you mean ashes or cinders?

A. Yes. Undoubtedly they filled the right of way in first. I know they originally did.

Q. Now, you put a valuation of how much on parcel No. 70?

A. Fourteen thousand dollars.

Q. What is that per acre?

A. Around $1200 an acre.

Q. And have you sold any other land similarly situated in that vicinity?

A. I have.

Q. Was it land along the brook, which was subject to flood?

A. It was land abutting on No. 71.

Q. On which side?

A. Well, that would be on the east side—No, that would be on the west side of 71, abutting on another street.

Q. And fronting also on Union Avenue?

A. No, fronting on "E" Street.

Q. Where is "E" Street?

A. Branching off from Union Avenue, about a hundred feet from tract 70, running south.

Q. A hundred feet west of tract 70?

A. Yes.

Q. And running south?

A. Yes. The trolley that goes up Union Avenue is on it.

Q. Which way does that tract extend that you sold?

A. It is 150 feet on "E" Street.

Q. On which side of "E" Street?

A. The east side of "E" Street.

Q. What depth has it?

A. Less than two hundred feet. I think it is one hundred and eighty and some feet.

Q. Then it was a building lot you sold there?

A. Yes sir. It was made into a building lot when it was filled in.

Q. How far was that from this tract 71, parcel 71?

A. It abutted on it.

Q. It ran back to it?

A. Well, it must have run close to it. The rear of it is all right down there in what you term as meadow land.

Q. Well, is it meadowland?

A. What do you mean by that?

Q. I want to know what you term it.

A. I don't term it meadowland. Meadowland is worth two hundred dollars an acre. It is right in the improved section of Bound Brook.

Q. You say you have valued it a more than meadowland. You said when it was worth more than two hundred dollars an acre, you did call it meadowland.

A. Well, the location of it relates to the value.

Q. What do you term meadowland?

A. Pasture land.

Q. Is this pasture land?

A. I believe that the water company rents it for pasture land.

Q. Would you term it meadowland?

A. No.

Q. Would you term it pasture land?

A. Decidedly not.

Q. Although it is used for pasture land?

A. Exactly.

Q. Where have you sold any lots in that vicinity?

A. On the opposite side of the street and on Union Avenue within—

Q. On the opposite side of what street?

A. — within two hundred feet of parcel No. 70.

Q. On the opposite side of what street?

A. "E" Street.

Q. That is an entirely different character of land, isn't it?

A. Yes. It is worth no more. It is higher land.

Q. It is level with the street?

A. It is much higher than the street.

Q. What is the character of this lot that you sold on the east side of "E" Street that backs up to tract No. 71? Was that high ground?

A. That backs up to 71?

Q. Yes, the first parcel you spoke of as having sold on "E" Street.

A. Oh, that is low, all the way to "E" Street.

Q. How low?

A. From four to six feet.

Q. Was it as low as the ground shown on parcels 71 on this diagram?

A. The rear of it was, yes.

Q. The part that immediately abutted it?

A. Yes, if not lower. I think it was lower.

Q. Was the part that fronts on "E" Street as low?

A. Yes, the foot is low.

Q. And it gradually tapered up to "E" Street?

A. No. At one time or another there had been some debris filled in there and that made the incline of the land.

Q. And the ground gradually raises, as you went toward the brook?

A. No; I do not think there was—

Q. Didn't you just testify there was a hill on the west side of "E" Street?

A. I did.

Q. Does not the hill gradually taper from the brook up towards "E" Street?

A. It did not.

Q. Was "E" Street, when it was laid out, filled in?

A. Yes.

Q. Where did you sell any other land beside that on "E" Street that was similar land to this or abutted on this land?

A. Close to it, do you mean?

Q. I mean adjoining it, the nearest you have sold.

A. I do not think I have sold any right there, but within three hundred feet I have.

Q. Now, do you consider that this parcel, seventy, 71 and 72 would be available for building sites?

A. It certainly would.

Q. And is that what you valued it at, for the purpose of building sites?

A. I did.

Q. How much below the surface of Union Avenue—

A. The front of it, entirely for building sites. They would not say the rear just at the present time, although it could be used for that purpose.

Q. But in fixing your value you took what the value of the frontage would be and then computed the acreage and put it in at that price?

A. I did.

Q. How much lower is the tract shown as No. 70 and 71 than the surface of Union Avenue, which crosses between those two tracts?

A. 70 and 71—I do not know exactly; I could not tell you. I should imagine around five or six feet.

Q. When you put a valuation on this for building purposes did you figure that this land would have to be filled in?

A. I certainly did.

Q. And did you take into consideration the cost of filling that land?

A. I did.

Q. How much did you figure it would cost to fill it in?

A. Ten or twelve dollars a running foot.

Q. And after it was filled in, what did you figure it would sell for?

A. At least thirty dollars, or probably forty dollars a foot. I have been offered forty dollars a foot for a piece on the opposite side of that for a garage.

Q. Whereabouts?

A. Right opposite seventy.

Q. How far from this tract?

A. Fifty feet, across the street.

Q. How far from the brook?

A. I suppose about a hundred feet. I do not know whether that cuts very much figure.

Q. Has it been sold?

A. No.

Q. Why not?

A. The man who made the offer and was to buy died and the man who owned it did not care to cut a piece out there just at that time. That was two years ago.

Q. What was on this parcel, No. 70, the acreage price?

A. Twelve hundred dollars.

Q. Have you sold any property similarly situated, of the same character as this, in this vicinity for twelve hundred dollars an acre?

A. No; there is none for sale.

Q. Well, for the last four or five years has any property along that brook, similarly situated, been sold for $1,200 an acre?

A. I don't think so. There has been some sold for $500 an acre, touching this up here on the north of tract No. 70.

Q. No, there is quite a difference between five hundred and twelve, isn't there?

A. No, indeed. Not when you have got that station there.

Q. Where was the property that was sold for five hundred dollars an acre?

A. I think it touches this parcel 70 and it is like land on the north of 70, or northwest.

Q. Has the rear of that improved in value, as compared with the tonnage on Union Avenue?

A. Yes, about $500 an acre.

Q. For what purpose?

A. Any of these people touching on that would gladly pay $250 for a half acre running to the brook. I value them from $175 to $200 more an acre because the dwellings on that side are of greater value.

Q. Well, it could not be used for residential purposes, could it?

A. If I lived there I would be glad to pay $250 for a strip to the brook.

Q. Has anybody paid $250 for a strip running to the brook?

A. Yes.

Q. Who were they?

A. The residents along there.

Q. Mention some of them.

A. A man named Hugh Bache.

Q. Where is he located?

A. He is located about a hundred feet above this—about three hundred feet from Union Avenue.

Q. Did he pay $250 for an acre of that or a strip of that?

A. Yes; he paid near a thousand dollars for a strip of it in there.

Q. How much land was there?

A. It could not have been more than an acre.

Q. Do you know of any other sales similar?

A. No, but I know what they are asking for that land up there. I do not know of any similar sales. I made none myself, anyway.

Q. What was the value you put on parcel No. 74?

A. $2.00 a running foot.

Q. Is that diagram No. 27 you have?

A. My diagram does not seem to be numbered. Parcel 74, is that fifty feet strip running through here (indicating).

Q. Oh, yes. What was the value placed on that?

A. $2.00 a running foot; $1,200. I paced it off, 300 paces. I see by the record it is 594 feet—200 paces—that would be $1,188.

Q. Who was that purchased from?

A. From the R. V. Pierce Estate.

Q. What was paid for 74?

A. I do not know exactly. They were bought together. With 75 it was seventy-five hundred.

Q. I think in placing a valuation on this piece you said something about damages to the adjoining land?

A. Certainly.

Q. What damage is there to the adjoining land?

A. Cutting that up. No one would want to have a pipe line running across their property. You could not build on it. You could not make a street out of it.

Q. Well, that is not running across there practically. It was bought in fee, as if they had put a building lot through there.

A. Exactly, but it was taken out of their property.

Q. Do you think that destroys the building property?

A. Absolutely.

Q. The pipe is underground, is it not?

A. Oh, yes.

Q. And there is nothing showing on the surface?

A. Not at the present time.

Q. You think if a man sells a building lot and owns property on either side of it, that destroys the other property?

A. It does when it runs through the center of it, yes.

Q. How is it destroyed?

A. I just said it was destroyed for all purposes. You could not build on it; you could not sell the lot—

Q. You cannot build on something you do not own, of course?

A. You could if you owned it.

Q. But you cannot own it and sell it both, when you get your money?

A. Absolutely not.

Q. They sold it to the water company?

A. Yes.

Q. And they got paid for it?

A. Yes.

Q. And you say this destroys the value of the adjoining property?

A. It reduces the price, for practically the amount he sells it for and more.

Q. Of the adjoining property?

A. Of his own property.

Q. You took that into consideration in valuing this?

A. Of course.

Q. Why should you take into consideration in valuing this particular property what injury it did to some other property?

A. Because it would be worth that much for the man who purchased it if he wanted to make his property more valuable.

Q. Which man?

A. The owner of the adjacent property.

Q. If he sold it for a certain price, your figure for purposes of valuation, it is worth more because he would want to buy it back. Is that it?

A. No; I do not say more.

Q. But you value it at more than the cost?

A. Oh, no. My appraisal is less than what he sold it for.

Q. How do you know?

A. Well, my value for those two pices was seventy-two hundred dollars and he got seventy-five hundred for them.

Q. You stated a little while ago that you did not know what this parcel cost.

A. I do not know what it costs.

Q. Then how do you know that you have valued it at less than it cost? I am talking about the one particular item.

A. We approximated the value.

Q. Do you know whether your value is more or less than what this particular piece of property cost?

A. It is less than what we approximated the value of it was.

Q. Will you answer the question please?

A. I think I did.

Mr. Hague—Read the question.

Q. (Previous question read as follows: "Do you know whether your value is more or less than what this particular piece of property cost?")

A. Less.

Q. How much less?

A. I should judge—

Q. I don't want the "judge." I want the amount.

A. Two or three hundred dollars. I do not know. I do not know exactly; I cannot be specific. I imagine two or three hundred dollars.

Q. When you testified before and said that you did not know what this parcel No. 74 cost, you were wrong then?

A. I don't think I testified to that.

Q. Well, I will ask you now. What did parcel No. 74 cost?

Mr. Wight—He said—

Mr. Hague—Will you let him testify, please?

A. To the best of my knowledge I believe it was around $3750, to the best of my knowledge and belief.

Q. Parcel No. 74?

A. No. 74.

Q. $3750?

A. To the best of my knowledge and belief.

Q. How did you write that?

A. When they were sold the value was figured practically the same, those two pieces, in dollars and cents.

Q. You mean seventy-four and seventy-five?

A. Yes.

Q. They cost approximately the same thing?

A. They were valued at that, yes.

Q. Were they sold by the same firm?

A. They were.

Q. What value did you put on parcel No. 74?

A. $6.00 a running foot, or thirty-six hundred dollars; but I see that that is not quite 600 feet. I made it two hundred paces.

Q. What value did you put on parcel No. 75?

A. $3600. I put a value on there of twenty dollars per front foot, on there, on Main Street, and seventeen dollars on the side street.

Q. What is the total value?

A. It will amount to $3600.

Q. How many feet is on Main Street?

A. I do not know. I think it was around 180, I will measure it. I don't know; I cannot tell. Around 180 feet. I have got that somewhere.

Q. What per front foot did you figure?

A. Twenty dollars.

Q. Did you figure any other frontage in on that piece, parcel 75?

A. No; there is no other frontage. You could figure seventeen dollars on the side street.

Q. Well, did you?

A. No; I did not figure that. I just estimated their value and put the piece in at $3600.

Q. In the appraisal submitted here in this case parcel No. 75 is put in at a value of $5625. Now, you don't agree with that figure?

A. That is 75?

Q. Yes.

A. No, I don't.

Q. Now, turn to parcel No. 76. You valued that at $250 an acre.

A. Yes.

Q. That is on the side of the mountain, isn't it?

A. Yes, a good part of it is. It runs to the top of the mountain.

Q. Is it level?

A. Yes, sir.

Q. What portion of it is level?

A. I should judge about forty per cent. None of it is real level.

Q. Is there a reservoir up there?

A. Yes.

Q. How much of it is used for reservoir purposes?

A. I do not know.

Q. Did you go up and inspect it?

A. I have seen the reservoir, yes. I was there Sunday but I did not go up to look at the reservoir. I went around it but I did not go and look at the reservoir. I have seen that often.

Q. There were sixty-seven acres and a fraction in it?

A. Yes.

Q. What proportion would you say was occupied as a reservoir?

A. I do not know. I was engaged to appraise the land, leaving out any improvements, so I did not go into that.

Q. How much of it would you say was comparatively level, sufficient to put a reservoir on?

A. Do you mean a reservoir on the side of the hill or a reservoir down below?

Q. Is there any portion of this tract that is down below on the flat land?

A. Yes.

Q. And how much of it?

A. A third, I should say.

Q. And the rest of it goes up to the top of the mountain?

A. Yes, I think it touches the top of the mountain, or very close to it.

Q. What is the height of the top of it, on the top of the mountain, over the low part?

A. That is, on the level?

Q. Yes.

A. Ninety feet, I think. I cannot answer that correctly; I do not know.

Q. Well, it is approximately that?

A. Yes.

Q. Have you sold any land adjoining this property?

A. No.

Q. Does this road from the Watchung pumping station go up over the mountain?

A. Yes.

Q. Have you sold any land on that road?

A. Lots of it.

Q. Have you sold any land on the road between the pumping station and the top of the mountain?

A. No.

Q. Where is the nearest land that you have sold to this tract, 76?

A. On that road just over the top of the hill and south of it, down here, the other side of the pumping station I have sold several tracts.

Q. Do you mean the other side of the brook?

A. Yes.

Q. You do not consider that the same as land on the side of the mountain?

A. No, it is not.

Q. In other words the land to the south of tract 76 is comparatively all level land down in the valley, isn't it?

A. Pretty much, yes.

Q. And available for farming?

A. Yes, for building sites. It has all been cut up. There are few farms down there.

Q. Where is the nearest to this tract 76 that you have sold?

A. To the west of it, a quarter of a mile.

Q. On the side of the mountain?

A. Yes, on the side of the mountain.

Q. Did that run to the top of the mountain?

A. No, it did not.

Q. Where is it, down at the foot of it?

A. Part of the way up.

Q. Whose place was that?

A. It was a place bought by Kelso.

Q. Who sold it?

A. George Lamont.

Q. Of Plainfield?

A. Bound Brook.

Q. How much was sold?

A. Ten acres.

Q. What did it sell for?

A. Four thousand dollars.

Q. When was it sold?

A. Within three years.

Q. Was there any building on it?

A. No.

Q. Was it along a road?

A. It touched the road for about two hundred feet —not that road. It touched a private road built by Mr. Lamont.

Q. Then Lamont owned considerable land there?

A. He owns all the mountain back of Bound Brook, and extending—

Q. What was it sold for, a residence?

A. A bungalow.

Q. What other mountain land have you sold, similarly situated?

A. Between that and this tract I have sold half a dozen I think.

Q. What were they sold for?

A. For bungalow sites, from four hundred to a thousand dollars an acre.

Q. Whose lands were they, Lamont's?

A. Some belong to a man named Fisher, some to a man named Chevenny. That farm is right for a bungalow development and if it was cut up it could be sold that way.

Q. Do you mean to say they are getting four and five hundred dollars an acre for that land on the side of the mountain?

A. Yes, and within a year they will get much more than that. They have some twenty thousand dollar residences up on the mountain back of Bound Brook.

Q. How far are they from this property?

A. Less than a quarter of a mile.

Q. What was the value you put on the tract No. 77, the pumping station?

A. $500 an acre.

Q. A good part of that land is under water, isn't it?

A. Yes; I suppose half of it; maybe more.

Q. And there is property near the front of it that is included within the brook, isn't there, shown on the map?

A. No; I would not imagine over twenty per cent.—not over ten per cent.

Q. Well it just takes a little strip on each side of the brook doesn't it?

A. Yes; it takes a little strip there, and where the pumping station is, a little piece in there.

Q. And did you take into consideration the title there included the brook?

A. I did.

Q. And figured it for building purposes?

A. For manufacturing and building purposes, mills, water rights.

Q. Did you figure on filling in the brook?

A. No, on building right over it.

Q. Building right over the top of the brook?

A. Or on the land abutting it, either way. For certain purposes, certain manufacturers want to be right over a brook.

Q. Are there many manufacturers along this brook?

A. I do not think there are any.

Q. But you took that into consideration?

A. Well, I will call a mill a manufacturing plant, whether a grist mill or flour mill.

Q. Are there any grist mills along there?

A. I do not think so.

Q. And you had that in mind in making the valuation, that there might be some water rights there for running a flour mill or grist mill or saw mill?

A. Yes. I do not know there would be any use for a saw mill there.

Q. A cement mill?

A. Yes.

Q. A felt mill?

A. Yes. It would be an ideal location for a felt mill.

Q. You think that land is worth five hundred dollars an acre?

A. I do.

Q. Including the land under water?

A. Including the land under water. The brook is a brook not a foot deep.

Mr. Hague—I think that is all.

Redirect examination, by Mr. Wight.

Q. On this same parcel, No. 77, in placing your valuation, which you testified to, you have not included water rights as a part of your valuation, have you?

A. Well, I naturally would take those into consideration.

Q. Do you mean to say—

A. Oh, no; not at all. It is the value of the brook being there, and probably touching the brook.

Q. Now, you say this property is available for manufacturing. Isn't it a fact that Bound Brook is growing toward this property and is developing right toward this property?

A. Yes; there are at least fifty residences built every year, tending right toward this property. There are two built recently, within three hundred feet.

Q. Would the property also have a value as a building site, for certain manufacturers?

A. Well, not for residences, it wouldn't.

Q. Well, now as to parcels 70 and 71, you testified, I believe, that you had taken into consideration the fact that the land would need filling in?

A. Yes.

Q. That is for residence sites?

A. Yes. It is right on route No. 9, now, of the State Highway. I took that into consideration too.

Q. Isn't it a fact there is a good deal of improvement being done to property around there?

A. Quantities of it.

Q. And is it also the fact that dirt for filling in is available at no cost, or free?

A. Very often at no cost at all.

Q. Is it also a fact that factories, in the construction of manufacturers don't care whether the land is low?

A. They do not. Certain manufacturers would rather have it low on account of the debris from their plant.

Q. And do they also in their construction—

Mr. Hague—Do I understand this was for manufacturing purposes?

Mr. Wight—I am speaking of properties near the center of the town.

Mr. Hague—What properties is he testifying to now?

Mr. Wight—As to properties No. 70 and 75.

Witness—Your question did not refer to any tract, I take it.

Q. No, not as to any specific tracts.

A. I took it generally around Bound Brook.

Q. Those which you testified are available for factory purposes, I just wanted to bring out these particular points.

A. Well, that would apply to those farms along the railroad.

Mr. Wight—That is all.

Recross examination, by Mr. Hague.

Q. Which property is it that you testified would be available for manufacturing sites?

A. Nos. 64, 65, 66.

Q. How much of that property is under water?

A. None of it.

Q. During the spring of the year how much of it was under water?

A. A good part of it.

Q. It is practically up to the railroad—it is up to the railroad in parcels 68 and 69, isn't it?

A. Yes. I did not mention those when I was stating you could use them for manufacturing purposes.

Q. And a good part of 66 is under water?

A. Yes; some of it is high.

Q. And how much of 64 and 65 is high?

A. I think as you— Those are rather high, 64 and 65. It is the property there marked "Theodore Hodge" and parcel No. 66, they are the low pieces.

Q. Is not a good part of 65 and 66 at the same time under water?

A. Yes; the trees would indicate that it was.

Q. Then it would not be available for manufacturing purposes without considerable expense, would it?

A. Absolutely. There are manufacturers looking for just that class of property.

Q. Are there many manufacturers there?

A. Yes, thirty odd.

Q. How much of the land adjoining the land of the railroad has factories on, and how much has not?

A. I suppose altogether a mile and a half.

Q. On which railroad is that?

A. All three railroads, the Philadelphia and Reading, the Lehigh Valley and the Central.

Q. How much of it is still open and available for factory sites?

A. Not very much. Do you mean within two miles of each side of Bound Brook?

Q. What proportion of the land along the railroad is occupied by manufacturing sites, in proportion to the amount not occupied on all the railroads?

A. Fully one-half.

Q. One-half is occupied?

A. For manufacturers and mercantile purposes. There is only one factory right in Bound Brook.

Q. I mean outside of Bound Brook or within the borough limits.

A. Within the borough limits?

Q. Yes.

A. There isn't any.

Q. How much of this property is there in the Borough of Bound Brook, as shown on diagram 22?

A. I do not think there is any of it.

Q. Between the center of parcels 66 where the brook crosses, there is a boundary there?

A. Yes, if that is the middle brook, that is the dividing line.

Q. And there is only that little portion of parcel 66 and those two little parcels 68 and 69 in the Borough of Bound Brook?

A. So I take it.

Q. And about half of the land is unoccupied for factory purposes, and half of it is occupied by factories.

A. In the borough of Bound Brook?

Q. Yes.

A. Oh, no; I did not say that. I said within two miles outside of Bound Brook.

Q. In the Township of Bridgewater, on the Jersey Central and Philadelphia and Reading, and Lehigh Valley Railroad, on those railroads in the Township of Bridgewater, how such is occupied by factories?

A. Factory and development—

Q. I want factories. We will have the development afterwards.

A. I suppose a third of it; that is on the north side of the Central Railroad I am speaking of.

Q. That is the line where the trolley parallels from Bound Brook to Somerville?

A. Yes. When I say "occupied" I mean industrial plants own the property.

Q. How much of it is taken up on the north side of the Central?

A. For factories outside the Borough of Bound Brook, how far?

Q. Well, take all the way up to the Somerville line. That is all Bridgewater Township, is it not?

A. Take it up to the Finderne Road, at least two-thirds would be occupied.

Q. That is only half way.

A. On the north side of the Central take it up to the railroad that runs up to Chimney Rock, the Middlebrook Railroad.

Q. How much is occupied on the north side of it?

A. Between there and Bound Brook?

Q. Yes.

A. It is all factories but one field in there.

Q. What factories?

A. The Calco and Hemingway plants; the Bound Brook Woolen Mills.

Q. Are you talking on the north side or the south side?

A. I am talking about the land.

Q. I am talking about factories that are there.

A. Factories don't have to cover the whole land. The Calco owns on both sides of the Central Track there.

Q. Is it occupied by factories?

A. It is partly occupied, but they expect to build on it or they would not have bought it and kept it.

Q. How much is actually occupied by factories built on it and going?

A. I could not tell you. Do you mean—

Q. I mean the proportion on the space between Somerville and Bound Brook on the Central Railroad, what portion of it is occupied by factories?

A. West of the Finderne Road I could not tell you.

Q. You don't go to Somerville much, do you?

A. I do but I am not so conversant and I do not know what part of the land the factories own.

Q. Is it not a fact that there are practically no factories between Finderne and Somerville?

A. Yes, there are three that I know of. The Somerville Stove works, The Somerville Foundry—

Q. That is just before you go into Somerville?

A. Yes.

Q. They don't take up a quarter of a mile, do they?

A. The distance from Finderne Road to Somerville is less than half a mile.

Q. What road do you mean?

A. The Manville Road.

Q. Is that where the old Finderne station is located?

A. Yes.

Q. And it is only a quarter of a mile?

A. Yes.

Q. What factories are there between Finderne and Somerville on the Central Railroad?

A. Do you mean Somerville Station?

Q. No, I mean Finderne and Bound Brook.

A. Well, the Bound Brook Woolen Mills, the King Chemical Company, the Peerless Chemical Company and the Hemingway and Calco, who own several hundred acres, and lots of them.

Q. How much of it is taken up by factories and how much is vacant land along the railroad.

A. Well, the factories practically own the land on both sides of the Central along there.

Q. How about the Lehigh Valley Railroad?

A. The Johns-Manville and the tie concern up there, the Creosoting Company.

Q. Isn't it a fact that there is considerably more than two-thirds of the land in Bridgewater Township on the three railroads, on both sides of the three railroads, that is not utilized for factory purposes?

A. More than two-thirds?

Q. No.

A. No; I would not say so. I mean factories or mercantile. For instance, the King Chemical Company occupy ten or twelve acres and they have something like fifteen hundred feet frontage on the railroad.

Q. This land is on the Lehigh Valley, and the land we have been talking of?

A. Which land?

Q. The land in question, tracts 64 to 69, they are all contiguous, aren't they?

A. They join each other, and they are still going further away from Bound Brook as they join.

Q. And they are farther from Bound Brook than the land I have been talking about up around Finderne.

A. Yes.

Q. But this land is not available, because of its condition by reason of floods?

A. No, sir. I have tried to buy land in there lots of times and the railroad would not entertain an offer.

Q. Well, this property was not railroad land, was it?

A. That Hodge property is factory land.

Q. Was parcel 64, 65 and 66 railroad land?

A. I believe it was; yes.

Q. And the railroad company sold it to the water company?

A. I think so.

Mr. Hague—That is all.

Commissioner Osborne—Have you any other witness?

Mr. Wherry—Yes.

John Fedor, sworn on behalf of petitioners.

Direct examination, by Mr. Wherry.

Q. What is your business?

A. Real estate.

Q. Where are you engaged in this business?

A. In Linden Township.

Q. How long have you been in that business there?

A. Since 1904.

Q. Before that were you in the same business?

A. I was in Roselle.

Q. In the real estate business?

A. Yes.

Q. Have you bought and sold property in Linden Township?

A. Yes.

Q. And are you familiar with the values of real estate there?

A. Yes, sir, factories and——

Mr. Hague—Can I ask a question?

Mr. Wherry—Certainly.

By Mr. Hague.

Q. Mr. Fedor, what sort of meadowland have you bought there?

A. By the railroad, by the Fast Line trolley.

Q. Did you ever buy any meadowland between the Central Railroad's Long Branch Division and the Sound?

A. My associate bought and sold.

Q. Did you ever buy any?

A. Not me.

Q. Did you buy any land along the Sound Shore Railroad?

A. Not me, no.

Q. And you never bought any?

A. No.

Mr. Hague—I object to this.

By Commissioner Osborne.

Q. When you say your "associate" what do you mean?

A. My partner, Mr. Winans, and Mr. Montgomery.

Q. Were you in partnership with those gentlemen?

A. Yes.

By Mr. Hague.

Q. You were not in partnership with Mr. Montgomery?

A. I handled the real estate for the same firm.

Commissioner Osborne—If he was in the business as the firm was, if he was cognizant of it, and the organization of which he was a part participated in it, I think that is sufficient.

By Mr. Wherry.

Q. Your associates and you, yourself, have been in business buying and selling meadowlands there?

A. Correct.

Q. For how long?

Commissioner Osborne—Who were they?

Q. Who were they? Were you partners of Mr. Winans?

A. I am a partner now and I am the secretary, and Mr. Montgomery had land in Linden and I bought from him and handled the land for him with regard to the development of houses and lots, and the factory sites was handled in his office, and I was in touch every day from 1907 until now with most every piece of real estate.

Q. Were you employed by Mr. Montgomery?

A. I was employed and worked on commission and also bought and sold.

Q. And afterward became a partner?

A. Not with him, because that was a corporation.

Q. (By Mr. Hague) You are one of the officers of the John Fedor Realty Company?

A. Yes.

Q. And Mr. Winans is in that company?

A. Yes.

Q. John P. Winans.

A. Yes.

Q. Mr. Montgomery has nothing to do with that company?

A. He sold the land to the realty company.

Q. That property at Tremley?

A. From Tremley up to the Pennsylvania Railroad.

Q. Isn't that the land that was sold to the Standard Oil Company?

A. Yes.

Q. Mr. Montgomery's property was down at the junction of the Sound Railroad, taking up all the salt meadow in there?

A. No; it was on Staten Island Sound, and I handled it myself.

Q. That is from the Edgar Road down to the Long Branch Railroad, going to the shore—that is all upland?

A. Yes, and the other is salt meadow.

Q. A little part is salt meadow?

A. Well, on both sides of the Rahway—

Commissioner Osborne—Do you think this man does not know enough about the real estate in the district generally to know these values?

Mr. Hague—There is an entirely different value on salt meadow land, and Elizabeth meadows and Linden meadows.

Q. Have you bought any of the salt meadow between the Sound and the Central Railroad?

A. I did not buy, but—

Q. Did you sell any?

A. Mr. Montgomery did. The Tremley Point Corporation.

Q. You are not in the Tremley Point Corporation?

A. I was the secretary.

By Commissioner Osborne.

Q. Were you secretary of the company at the time that the company, through Mr. Montgomery, bought or sold this land?

A. No; it was different people. Mr. Straussman was the secretary.

Q. Did the company, while you were an officer connected with it, buy or sell this land?

A. They sold it.

Q. (By Mr. Hague) When was that?

A. In the last three years.

Q. Which company?

A. The Tremley Point Realty Company and the East Linden Company. They control all the land from the Edgar Road to Staten Island Sound. They would not cut up the land in small parts and no one could handle it except a big corporation if they wanted to buy.

Q. And there was only one sale of the salt meadow?

A. No, more sales.

Q. And it was sold to more than one party?

A. Yes.

Q. Who was it sold to?

A. To the Warner Asphalt Company.

Q. Who else?

A. The Sinclair and Grasselli bought a part.
Q. Who else bought any?
A. No one.

Commissioner Osborne—I will admit the testimony. Go on.

By Mr. Wherry.

Q. I call your attention to Exhibit P-2, diagram No. 23. From that diagram can you tell where that property is?

A. I know that.

Q. Have you made an appraisal of the parcels marked there No. 40, 43, 44, and 45?

Mr. Hague—Where is 40?

Q. I don't mean 40. 43, 44, 45, 46, 47, and 48.

A. Yes, sir.

Q. Now, will you state what in your opinion the value of those parcels are?

A. Do you mean by the running foot or acreage?

Q. The whole value of it, 43.

A. A fair value would be $1.50 per running foot and about a thousand dollars an acre, in that section.

Q. How much would that whole piece be worth, No. 43?

A. No. 43, would be worth about $945.

Q. How about No. 44?

A. 44—

Mr. Hague—Nine hundred and what?

Witness—$945. $1.50 per running foot. No. 44 would be about $6,075.

Q. And $1.50 per running foot?

A. Yes, and $1,000 an acre.

Mr. Hague—How much was that?

Witness—$6,075.

Mr. Hague—That is for No. 44?

Witness—For No. 44; $6,075.

Mr. Wherry—That is less than the other man appraised it?

Q. No. 45?

A. That will be the same rate, $1.50 and $1,000 an acre.

Q. That would be $750 for the five hundred feet?

A. Yes.

Q. How about No. 47?

A. Forty-seven or forty-six?

Q. Forty-six.

A. Forty-six will be three dollars a running foot—

Mr. Hague—What was No. 45?

Witness—$750.

Q. Forty-six?

A. Forty-six would be $1,950; three dollars per running foot.

Q. Forty-seven?

A. The same thing, $3.00 per running foot or $6,600.

Q. No. 48?

A. Three dollars per foot; $1,350.

Q. Why do you appraise numbers 46, 47 and 48 at three dollars and the others at $1.50?

A. Because this is some of the most valuable land in the Township of Linden and has waterfront, lying on Staten Island Sound.

Q. Do you base those values on sales?

A. On sales that have been made recently in former years.

Q. Now, turn to Diagram No. 6 in that same exhibit. The property marked there Parcel 40, are you familiar with that piece of property?

A. Yes, sir.

Q. Did you make an appraisal of it?

A. Yes, I did.

Q. What is the value of it?

A. $1.50 per running foot.

Q. The same as you value these other parcels, 43, 44 and 45?

A. Yes.

Q. What would be the total value of that?

A. Of forty it is $1,057.50.

Q. Did you base that on the sales?

A. On the sales.

Q. Of similar property?

A. Similar property.

Q. Now, turn to diagram No. 25.

A. Yes, sir; I know that property. I valued that at two dollars per running foot.

Q. That is parcel No. 50?

A. No. 50, yes; twenty-five feet, fifty dollars.

Q. I call your attention to diagram No. 6 on *Exhibit P-2,* parcels Nos. 38 and 39, and ask you if you are familiar with them or know the value of those lots?

A. Yes, sir; I am familiar with it.

Q. The company owns the easement in that property, and not the fee.

Mr. Hague—What is that?

Mr. Wherry—That is 38 and 39. We own simply an easement, and not the fee.

Q. Have you appraised that easement or right the company has?

A. Yes.

Q. What is that worth, in your opinion?

A. Two dollars per running foot.

Commissioner Osborne—Do you not suppose that for the purpose of the record, it should appear that the witness knows what the right is that he has appraised? You make a statement that the company owns the easement or rights, but you do not show what it is.

Q. Do you know what the company's right in that property is?

A. Yes.

Q. What is it?

A. They have their pipes laid so that in the future whenever Mr. Kaufman should decide to develop that in lots they must change that or have it fixed so that the streets will be fitted with the pipes.

Q. They have a right to leave those in there with that restriction?

A. Yes. At any time that Mr. Kaufman should lay that tract of land with those streets on, they should have a right to lay all the mains there, and the right is—

Mr. Hague—In other words, if he laid out streets there he would have to move this—

Witness—Not those. Those must remain there, but they must accommodate him with their pipes wherever they require them.

Q. The rights the company has in thirty-eight and thirty-nine are those the rights to lay pipe and maintain it in that strip of land?

A. Yes.

Q. And in consideration of that the company is to furnish water, and make extensions to the development?

A. Yes. That was the agreement with Mr. Kaufman.

Mr. Hague—Just a second. Where is that agreement? The agreement is the best evidence. I object to this unless they produce this agreement. I have no knowledge of this agreement.

Commissioner Osborne—Do you wish documents which indicate the right of the company in these various properties, which they do not claim to own in fee, to be produced for your inspection?

Mr. Hague—Yes. I asked that the last time.

Mr. Wherry—I offered to let you examine them.

Mr. Hague—You have not said anything about 38 and 39. You told me about it. I do not know anything about these reasons.

Mr. Wherry—He was stating what right Mr. Kaufman has. He has a right—

Commissioner Osborne—Mr. Wherry, is not this the proper way to do it: you frame your question, and in that question indicate what you conceive to be the right of the company in the nature of an easement, and ask the witness what, in his judgment, that right is worth. Now, if Mr. Hague takes issue with that statement as

to what the company's right is, then, of course, the proceeding would have to be suspended until you could produce proper evidence of that which would be the basis for your question.

Mr. Wherry—Exactly.

Commissioner Osborne—Mr. Hague may not—a slight variation, of course, in a mere easement, of a little more or a little less would make some little difference, possibly, that Mr. Hague when he hears the statement, as you claim it, may not insist upon having the best evidence of what that easement is.

Mr. Wherry—Well, the way, as I understand it, the company acquired the right to lay its pipe through this piece of property—in consideration we have an agreement with the owner of the company that if in the future he developed it they would make extensions for him, and that was the consideration he got.

Commissioner Osborne—Then the question is, what that right is worth, subject to that limitation?

Mr. Wherry—The only question I am interested in now is what the right of the company to maintain its right there now is worth.

Commissioner Osborne—Yes, but that right is subject to a limitation or restriction.

Mr. Wherry—When it comes to laying extensions in the future the company has an obligation to him. They gave that in lieu of cash to Mr. Kaufman. I do not think—

Commissioner Osborne—Do they have to take the pipe up?

Mr. Wherry—No.

Commissioner Osborne—Do they have to make extensions?

Mr. Wherry—Make extensions for him.

Commissioner Osborne—Then this witness' understanding was not quite accurate. This wit-

ness said—if you are referring to the same case—this witness said that the company was obligated upon the demand of Mr. Kaufman to take up and relay those pipes so they would conform with his scheme of development. You say "no; it is a matter of laying extensions."

Mr. Hague—This witness has apparently testified to the value of this right of way on the assumption that the title was the same as rights of way, that is, that the company apparently owned the land.

Commissioner Osborne—Oh, no; he has not done anything of the sort. He valued the right of way subject to being changed to suit the development by the owner in the future, at two dollars a running foot.

Mr. Hague—May I have a right to cross-examine him on that point?

Commissioner Osborne—Yes.

By Mr. Hague.

Q. Is it your understanding that when you were asked to place a valuation on this property you were asked as to 23 and 24?

A. No; 38 and 39.

Q. Was it your understanding that those rights of way were the same as the rights of way down on the salt meadow, owned by the water company?

A. It is not the same right of way, but it is for the same purposes and it is just as good as the other.

Q. What do you mean?

Commissioner Osborne—If it is not the same, why discuss it by way of comparison? Why not find out his understanding of this situation?

Q. What was your understanding of this right of way?

A. They had an easement there and the man could use the land they bought and the pipes could remain but he must let them have access to their property to handle

at least a twelve or fourteen-foot pipe in that section and maintain those pipes in the streets.

Q. What was the width of the right of way?

A. Somewhere around fourteen feet.

Q. What did you value those there?

A. $2.00 per running foot.

Q. Do you consider that the value of an easement where they only have a right to maintain pipes below the surface is as valuable as where they own the rights in the entirety?

A. For a water company I think it is the same thing.

Q. Then you value this for water works purposes, that it was for a water company and not for the purpose of sale?

A. It was for the purpose of the water company and sale both.

Q. They could not sell this right of way except for water purposes, could they?

A. They could sell it for oil pipe line or other purposes. I have inquired, myself, what he wanted for other rights of way in that section.

Q. Yes, but the one they had an easement on, to maintain water pipes, they could not sell that, could they?

Commissioner Osborne—You are asking for a conclusion of law. Now, instead of asking him to give you a legal opinion, ask him to state whether he based his judgment upon the fact that they could only use them for water purposes, and whether it could be used for any other purpose in disposing of it.

Q. The easement that was granted to the water company on tracts 38 and 39, was that for water purposes only?

A. For water purposes only.

Q. Then they could not dispose of them for other purposes?

A. No.

Q. Then would it have any value at all except for water works purposes?

A. It would be of value to him to use the land and they must let him have access to that property.

Q. Only for water works purposes, to maintain the water pipe on it?

A. Yes.

Q. And it would have no value for any other purpose?

A. No.

Q. Because they could not use it for any other purpose?

A. No.

Q. (By Mr. Wherry.) Then in forming your judgment of the value of it, did you assume it would have the same value whether it was used for water pipe or some other pipe?

A. For oil pipe, more because an oil pipe company cannot condemn property for rights of way.

Q. And in forming your judgment you assumed it was used for rights of way for any kind of a pipe line?

A. Yes.

Q. This particular purchaser was limited to using it for water rights?

A. Yes. And a reason is that they might in the future assist him to get the water in their streets and that is the reason of making it much less than from an oil company.

Q. (By Mr. Hague.) How do you know that?

A. I have been there with Mr. Kaufman and tried to close a deal.

Q. Did you see this agreement with the water company?

A. I asked Mr. Kaufman the condition and he explained why it was more to the oil company than to the water company.

Mr. Hague—I object to that.

Commissioner Osborne—Strike out the unresponsive part of the answer.

Mr. Wherry—Mr. Townley tells me that Mr.

Kaufman has not got the right to have the extension made that the witness thought he had.

Commissioner Osborne—Now have you found out what right they have?

Mr. Wherry—They simply have an easement to lay the pipe there and maintain it with access to it without any limits in time.

Commissioner Osborne—Now put that in the question and get an answer to it, assuming that they have certain rights indicated, what in his judgment has the value of that right.

Q. (By Mr. Wherry.) Now, assuming that a company has a right on tract 38 and 39 on the diagram I called your attention to there on *Exhibit P-2,* to lay its pipes under the surface of the land and maintain that pipe there, and to have access to it for maintenance and repairs, and the owner of the land owns all other rights in the land, what in your opinion is the fair value of that interest which the company has in the land?

A. I base it at two dollars a running foot.

Q. And the total for tract 38—

A. $3,182 on tract No. 38.

Commissioner Osborne—Now, Mr. Hague, the question arises whether you are satisfied with Mr. Wherry's statement that that is the extent of the right of the company. If you are not satisfied with it, you have a right to demand the original instrument.

Mr. Hague—Your Honor, I asked Mr. Wherry at the last hearing to give me a list of the properties in which they owned the fee and the right of way, and what that right of way consists of.

Commissioner Osborne—Did he give it to you?

Mr. Hague—No; he did not. He gave me one to twenty-four this morning.

Commissioner Osborne—He apparently omitted this tract. Now we may assume, I think, for the purpose of disposing of the matter, that it

was omitted inadvertently. Now, the question is upon Mr. Wherry's statement, if that is the extent of the company's interest, are you satisfied with it or do you wish him to furnish you with more data, original documents or copies? If you indicate your wish in the matter, it can be taken care of.

Mr. Hague—I am not going to raise any further objection about it. All proceedings before the Commission, I suppose, are supposed to have great latitude.

Commissioner Osborne—You have certain rights and I am giving you an opportunity to have those rights asserted. But I may say, in passing, that if it is a matter of minor importance and you have no reason to believe that the statement which counsel on the other side makes as a matter of fact is inaccurate, or that he is mistaken, why waste any more time on it?

Mr. Hague—I cannot affirm or deny it. I have no knowledge of it.

Commissioner Osborne—How much is involved?

Mr. Wherry—If your Honor please, this whole tract involves about seventy-two hundred dollars, in this appraisal.

Commissioner Osborne—The only question, Mr. Hague, is whether you are satisfied with Mr. Wherry's statement of the facts. If you are not, Mr. Wherry can produce the original instrument.

Mr. Hague—I do not care about this one particular item of 38 and 39. I do not care to object particularly to that.

Commissioner Osborne—I am not going to pass on anything but this. I understand he has given you the situation and pointed out the evidence from one to twenty-three or 24.

Mr. Hague—Yes; Mr. Wherry this morning called my attention to them, but I did not quite

get whether they were subject to any other rights; that they had just a right to lay water pipe across there.

Mr. Wherry—I think if Mr. Hague and I had a few minutes with Mr. Townley, he could tell him about those rights—or I will put Mr. Townley on the stand and we can ask the witness a hypothetical question.

Commissioner Osborne—Do you mean to ask the question on the assumption that you will find a basis for the question? He said two dollars.

Q. A running foot?

A. Yes, sir.

Q. For all three parcels?

A. Yes, sir.

Q. And those represent what? For parcel 38?

A. 38 has two easements. One is 1,591 feet at two dollars a foot, which would make $3,182. Another easement is 1,301 feet at two dollars a foot, which would make $2,602. And then parcel No. 39, 775 feet at two dollars a foot, $1,550.

Commissioner Osborne—Is there anything further of this witness?

Mr. Wherry—No.

Commissioner Osborne—Cross-examine.

Cross-examination by Mr. Hague.

Q. Mr. Fedor, what is the width of this right of way on the Tremley operation property?

A. Usually between—

Q. I want these particular ones.

A. To handle a pipe and turn around with the pipe is about twelve feet, from twelve to fourteen feet are those rights of way.

Q. How much was the value per acre you figured on 43, 44, 45 and 46?

A. 43, a thousand dollars an acre.

Q. 44?

A. Also a thousand dollars an acre.

Q. Were 45 and 46 the same?

A. No; 46 was not the same.

Q. Was 45 the same?

A. 45 was the same.

Q. How much for 46, 47 and 48?

A. Three thousand dollars an acre.

Q. Was 48 the same?

A. Yes, sir.

Q. And they are about twelve to fourteen feet?

A. Right of way, yes.

Q. You are not sure as to the exact dimensions, but it is between twelve and fourteen feet wide?

A. Yes.

Q. Why did you charge three dollars per running foot for 46, 47 and 48 and $1.50 on the others?

A. Because in the first place it is such a long right of way on—it is on the water front and it is one of the most valuable lands we have in Linden on the water front.

Q. It is not on the water front, is it?

A. It is close to the water front. It is considered as water front property.

By Mr. White.

Q. What number is this?

A. That is 47, 46 and 48.

Q. (By Mr. Hague) It is not within five hundred feet of the water front, is it?

A. It is about six or seven hundred feet from the water front.

Q. You consider that is worth double the amount of forty-three, forty-four and forty-five?

A. It is worth three times the amount in some instances. That depends on the amount of land they buy.

Q. Did you take into consideration when figuring the number of running feet that part of those pipes cross the right of way of the Central Railroad Company?

A. I took into consideration that. There wasn't much under the railroad's right of way.

Q. The Sound Shore Railroad; there are two pieces there that cross, are there not?

A. Not to my knowledge.

Q. Doesn't tracts 44 and 45 cross the Sound Shore Railroad?

A. No. 44?

Q. Yes.

A. No.

Q. Doesn't it run under the railroad?

A. Only 43 runs under the railroad.

Q. Does not 44 run under the railroad?

A. No; alongside of the railroad.

Q. What railroad are you talking about, the Long Branch Railroad?

A. The Long Branch Railroad.

Q. Look at the other end on number 44, at the Sound Shore Railroad. Does it run under the railroad there? That is on diagram No. 23.

A. No. 45?

Q. 44 and 45. Do they both now run under the Sound Shore Railroad?

A. Only a very small part.

Q. Don't they run completely across from one side to the other?

A. That is only the width of the track.

Q. (By Commissioner Osborne.) Can't you say yes or no?

A. Yes, sir; they run on the track.

Q. (By Mr. Hague.) What is the width of the right-of-way of the railroad, one hundred feet?

A. Yes.

Q. Now, deducting one hundred feet off of each one of these rights-of-way, did you deduct one hundred feet off of each one of these rights-of-way, as the right-of-way of the railroad, or did you count them in?

A. I counted them in.

Q. Now, take No. 43.

A. I figured the whole length of that.

Q. And there is over half of it that apparently by these lines comes within the bed of the Long Branch Railroad, if you take and draw a line along the northerly line of the right-of-way of the Central Railroad and cut it across it would begin about two-thirds on the southerly side of the right-of-way, wouldn't it? In other words, the northerly line of the railroad's right-of-way hits the right-of-way of the water company about two-thirds up, doesn't it?

A. That comes off on Wood Avenue and runs by the station—

Q. Doesn't it take more than half of the right-of-way?

A. Yes.

Q. And included in the railroad's right-of-way?

A. Yes.

Q. But you did not make any allowance for that?

A. No.

Mr. Hague—That is all.

Commissioner Osborne—Now, Mr. Wherry, I think you better furnish the Board with copies of the agreements relating to the rights-of-way, and perhaps the best way to do—

Mr. Hague—I think it should be furnished for the benefit of the Board and for the record.

Commissioner Osborne—If you will listen to me, I am trying to indicate that.

(After discussion.)

Mr. Wherry—I am perfectly willing to do it.

Commissioner Osborne—I am saying, Mr. Wherry should produce the original documents or copies, so much of them as relate to the rights-of-way, and furnish copies for the Board and copies for you. Do you like copies?

Mr. Von Minden—Yes.

Commissioner Osborne—And copies for counsel. In other words, you will abstract it in the usual way. The terms of these easements ought

to be before the Board in detail, so we can see just how extensive they may be, and that will avoid the necessity of putting the witnesses on who have testified to it, and he can just testify generally. Are there any more witnesses? Have you any more to-day?

Mr. Wherry—I have to put Mr. Townley on, I suppose.

Commissioner Osborne—Then we will take an adjournment until two o'clock.

(Recess from one to two o'clock.)

AFTER RECESS.

David H. Townley, sworn on behalf of petitioners.

Direct examination, by Mr. Wherry.

Q. Mr. Townley, what is your position with the water company?

A. I am engineer of the Elizabethtown Water Company and affiliated companies.

Q. How long have you been in that position?

A. Twenty years.

Q. Have you had charge of purchasing the rights-of-way for these companies?

A. I have.

Q. And that was by or under your direction that they have all been acquired?

A. Yes.

Q. Have you sold any property in connection with it?

A. No.

Q. Now, I hand you *Exhibit P-2*, diagram No. 22, and call your attention to the rights-of-way Nos. 41 and 42. Do you recollect that piece of property?

A. I do.

Q. What does the company own there on 41?

A. On 41 the only right-of-way which was given by the Port Reading Railroad Company inside of their right-of-way line. In other words, it is a branch of

easement which the railroad company gave the water company for a right to lay, maintain, use and replace and repair water line such as might be used in their business.

Commissioner Osborne—Is this one of the items that is to be furnished?

Mr. Wherry—I am going to furnish an abstract.

Commissioner Osborne—Why is it necessary to have this witness for this?

Mr. Wherry—I am going to ask the value of it.

Commissioner Osborne—Very well.

Q. Is there a similar right in No. 42?

A. There is.

Q. What, in your opinion, is the fair value of those two pieces of property to the company?

Mr. Hague—May I ask the witness a few questions?

Commissioner Osborne—Yes.

Q. (By Mr. Hague.) Have you purchased any rights-of-way for anyone outside of the water company?

A. No, I have not.

Q. How many rights-of-way have you purchased?

A. In number?

Q. Yes.

A. Oh, perhaps thirty or forty.

Q. Are you familiar with the value of the ground in that vicinity?

A. I have made inquiries.

Q. Have you ever bought or sold any of them?

A. Some we bought the land outright.

Q. Have you sold any?

A. No.

Mr. Hague—I do not think this witness is qualified to testify as to these values.

Commissioner Osborne—Why not? He is the man who goes and makes inquiries for the

purpose of purchasing different properties. Why isn't he qualified?

Mr. Hague—A man who goes and purchases a right of way cannot testify to the value of it.

Commissioner Osborne—It is competent to find out before he buys it—to qualify himself for his own purpose.

Mr. Hague—Can an ordinary person selling property for a corporation qualify as an expert as to the value of land in that vicinity?

Commissioner Osborne—Why not? Why cannot anybody who studies a matter intensively enough to know what he is talking about—that is all any expert does in any case. It only means that the witness has given the question such a special study that that qualifies him over and above the ordinary qualifications of the ordinary citizen who has not made that inspection to testify regarding it. That is all any expert is.

Q. Have you purchased any easements in that vicinity outside of these two?

A. They are the only two easements in that vicinity.

Q. You mean held by your company?

A. Yes; in that vicinity.

Q. Have you purchased any easements in that vicinity outside of these two?

A. No, I have not.

Q. You do not know what other easements which might have been purchased were bought or purchased for?

A. I know what other easements have been purchased for.

Q. In this vicinity?

A. Yes, within a short distance up there.

Q. Easements along a railroad company, as part of their right of way?

A. Yes.

Q. Where were they?

A. Along the Port Reading Railroad, for oil lines.

Q. Where is that?

A. Near Green Brook.

Q. How far is that from there?

A. Perhaps two or three miles.

Mr. Hague—I object to this witness testifying. I do not think he is qualified.

Commissioner Osborne—I think he can testify. Of course, we will take into consideration the fact that he is employed by the company.

Mr. Hague—I do not think he is qualified to testify to the value of an easement there. He never bought any within two miles of it.

Witness—Of these two individual cases. I have bought some right alongside of where the other easements were.

Commissioner Osborne—Two miles in one place might be a very different thing from two miles in another case. Two miles on the meadows between here and Elizabeth, and it would not make much difference where you estimated the two miles, but if they were around Broad and Market Streets or in the city somewhere, it would make a big difference. Where is this property? Is it out in the country where it would not make any difference in their value, or in some congested districts where it would make a very great difference?

Q. (By Mr. Wherry.) Explain the character of this property around there.

A. This is what is ordinarily termed in the country as meadowland.

Q. (By Commissioner Osborne.) Is it country property?

A. It is country property adjacent to and parallel with the railroad.

Q. How near any town?

A. Within about one mile, or possibly less, of the Borough of Bound Brook.

Q. How far from town is this other land you have spoken of here as two miles away?

A. South Plainfield.

Q. Is there any difference in the general character of the land?

A. This land is perhaps a little lower and liable to have a portion of it flooded at times in extreme high water. I might say we have purchased practically all the right of way from the Township of Linden to Bound Brook for the water company. These oil lines that cross our pipe line in places—I have made it my business to find out what oil companies were paying for rights of way.

Q. There is no difference between an oil right of way and water right of way?

A. It is an easement for the right to use that ground for the purpose of laying pipe and maintaining it for a water or oil line.

By Mr. Hague.

Q. But an oil line is much more objectionable than a water line?

A. It might be considered so.

Q. Well, isn't it considered so?

A. Possibly it is.

By Mr. Wherry.

Q. Does the railroad company charge the same for the pipe lines as for the water lines?

Mr. Hague—If he knows.

Q. Do you know?

A. I know the railroad company had about three years ago a standard price of approximately $1.50 per foot for a pipe line along their right of way.

Q. Similar to this?

A. Similar to this. That was for each pipe, and the size of the pipe was limited to a pipe—I think an eight-inch pipe.

By Commissioner Osborne.

Q. Is that water or oil?

A. That was oil.

Commissioner Osborne—I think we will take this testimony for what it is worth. I think he is qualified to testify.

Mr. Hague—There is a difference between purchasing a right of way and getting an easement from the railroad company to put their pipes upon their own right of way. He has not had any experience in this particular line. The ones he purchased he said was where they obtained a fee on private land.

By Mr. Wherry.

Q. Is this price for pipe on the railroad's right of way or the price the railroad charged for the fee?

A. For the right of way to lay and maintain our pipes.

Q. (By Mr. Hague.) On the right of way of the railroad?

A. The right of way of the railroad is land in fee, almost always.

Q. The water company was not acquiring the fee in it, they were only acquiring an easement on the right of way of the railroad.

Mr. Wherry—Exactly.

Q. How many of those have you purchased where it has been on the right of way of the railroad or some other corporation?

A. These are the only two that I recollect that are on the actual right of way. We have other rights of way that we have purchased from railroad companies where they own the land adjacent to their rights of way—in other words, just outside their hundred feet right of way.

Q. And you acquired the fee in those instances?

A. No; we acquired an easement.

Commissioner Osborne—You may proceed with the testimony.

By Mr. Wherry.

Q. What in your opinion is the fair value of No. 41?

A. Two dollars a foot.

Q. And that of No. 42?

A. The same price.

Q. What does that make it worth, the total?

A. $6174 for No. 41 and $3850 for No. 42.

Mr. Hague—How much?

Witness—$3850 for No. 42.

Q. And what was 41?

A. $6174.

Q. In forming that opinion, did you take into consideration the cost of it to the company?

A. I did.

Q. What did the company pay the railroad for it?

A. Forty-five hundred and ten dollars for the two of them.

Q. What did they pay for 41?

A. They were not separated. They were both combined.

Q. When were they bought?

A. 1918 or 1919.

Q. Do you think it is worth more to-day than it was then?

A. Yes, sir.

Q. Why?

A. Real estate has increased in value from two to three times.

Q. Will you turn to those parcels—are you familiar with those parcels, the title of which is in the Piscataway Company, known as the Bound Brook main, parcels No. 1 to No. 25—show me what diagram they are on. Which diagram is it on?

A. Diagram No. 6.

Q. Will you indicate to the Commissioner where these are located? It is a continuous line from one to twenty-five, isn't it?

A. Yes; starting in at South Plainfield, running in an easterly direction toward Elizabeth.

By Commissioner Osborne.

Q. What are those breaks?

A. That is because it is turned around; up here (indicating) it is on a curve. That break at that point is a road. We followed the roadway wherever we could.

Q. You do not have to obtain a right of way when you follow a road?

A. No, I do not.

Q. You get the municipal consent?

A. Yes, sir.

Q. (By Mr. Wherry.) Now, go from No. 1 to 37. In that right of way has the company got any rights excepting easements in those?

A. No. 20 is owned in fee.

Q. How about No. 12?

A. No. 12 is an easement.

Q. How about No. 14?

A. An easement.

Q. And the easement is of the character you describe. What in your opinion is the fair value of these parcels, No. 1 to 37?

A. (After examining papers.) Two dollars a foot for all of them.

Q. Do you know what they cost?

A. I do.

Q. What did they cost? They cost different amounts, didn't they?

A. Yes; they did. Shall I start in at No. 1?

Q. All right; go ahead.

A. No. 1 cost two hundred dollars.

Q. No. 2?

A. No. 2, $1200.

Q. No. 3?

A. No. 3—I have no figures on it at all.

Q. No. 4?

A. $239.16.

Q. No. 5?

A. $239.17. No. 6 is the same property as No. 3, and purchased from the same people, which I have no figures on.

Q. No. 7?
A. No. 7, I have no figures on.
Q. No. 8?
A. No. 8, I have no figures. And No. 9, I have no figures.
Q. No. 10?
A. No. 10, I have no figures on that available?
Q. No. 11?
A. No. 11, $234.79.
Q. No. 12?
A. The first section of No. 12, I have no figures available. The second section was forty dolars.
Q. Thirteen?
A. Thirteen, $100.
Q. Fourteen?
A. $500.
Q. Fifteen?
A. $250.
Q. Sixteen?
A. $400.
Q. Seventeen?
A. $400.
Q. Eighteen?
A. $300.
Q. Nineteen?
A. $125.
Q. No. 20 is owned in fee?
A. Yes, sir.
Q. We will come back to that. No. 21?
A. I have no figures on that.
Q. Twenty-two?
A. $500.
Q. Twenty-three?
A. $570.
Q. Twenty-four?
A. One thousand dollars.
Q. Twenty-five?
A. $3875.
Q. Twenty-six?

A. $400.
Q. Twenty-seven?
A. $362.90.
Q. Twenty-eight?
A. $375.
Q. Twenty-nine?
A. $437.
Q. Thirty?
A. $1121.60.
Q. Thirty-one?
A. $346.10.
Q. Thirty-two?
A. $1596.25.
Q. Thirty-three?
A. $925.
Q. Thirty-four?
A. $400.
Q. Thirty-five?
A. $1250.
Q. Thirty-six?
A. $769.75.
Q. Thirty-seven?
A. $847.60.
Q. Now, Mr. Townley, No. 20 you own in fee. Have you formed an opinion of the fair value of No. 20? Did you put any different value on it?
A. That right of way is worth $2.50 per foot.
Q. How much would that be?

Mr. Hague—Is this his value of it or what was paid for it?

Mr. Wherry—No; this is his value of it.

A. $3830.
Q. Do you know what was paid for it?
A. $825.

By Mr. Hague.
Q. $825?
A. $825.
Q. What was the amount you said you valued it at?

A. Thirty-eight hundred and thirty dollars.

Q. (By Mr. Wherry.) Was all this property purchased at one time?

A. No, it was not.

Q. Over how long a period of time was it purchased?

A. About a year and a half to two years.

Q. How long ago?

A. 1906, 1907, 1908.

Commissioner Osborne—Mr. Wherry, in getting up these maps, what is the idea of carrying the various tracts as separate parcels where they all adjoin each other?

Mr. Wherry—These are referred to in the book we have furnished, a reference to the deed for each tract.

Commissioner Osborne—It is to carry out the title references.

Mr. Wherry—Exactly.

Commissioner Osborne—To avoid confusion.

Mr. Wherry—We have furnished you with the line so that any conveyances aside, they could look at the original record.

Commissioner Osborne—It seems to me that where the tract is valued in numerous parcels that the total might be considered of them all, as well as the whole.

Mr. Wherry—Yes, but this Commission allowed assembly value in one of the first cases that came before it and they have refused to allow it in some of the other cases.

Q. In acquiring a right of way you have to pay different prices for different parcels, do you?

A. Yes, we do.

Q. And has a change in circumstances occurred since 1906 that makes you think it is worth more than it was then?

A. Considerably more.

Q. Why?

A. At the time we purchased that right of way there were very hard times and people were very glad to get some money for the property. A number of these properties had mortgages on. They would take the money we paid them and pay off on their mortgages. They were very glad to have an opportunity to do so.

Mr. Hague—How did you know what they did with the money?

Witness—In some cases we paid it directly to the party that held the mortgage, in a number of cases.

Mr. Wherry—Cross-examine.

Cross-examination, by Mr. Hague.

Q. Where was the last right of way that you purchased, that is of this chain in this list here ?

A. Outside of the one at Bound Brook, do you mean? Well, this line was put in shortly after 1907 and 1908. These rights of way were all purchased with the exception of a portion up at Bound Brook.

Q. That is the two parcels in the railroad right of way?

A. Yes; that was purchased about two years ago.

Q. When were the others purchased?

A. About 1906, 1907 and 1908.

Q. Then these rights of way numbered one to thirty-seven were all purchased since 1906, 1907 and 1908?

A. Yes.

Q. And this one at Bound Brook, along the Philadelphia and Reading Railroad, or rather, two adjoining each other, were purchased about three years ago?

A. About three years ago.

Q. Have you purchased any rights of way since then?

A. No.

Q. The two up there were parcels 41 and 42?

A. That is right.

Q. Now most of this right of way from parcels No. 1 to 37 is farm land, isn't it, running through the country, through Piscataway Township and Clark Township?

A. Yes.

Q. And practically it does not run through anything but farm land?

A. At that time it ran through nothing but farm land.

Q. Well, does it now?

A. Some portions of it have been developed.

Q. What portions?

A. A portion near Potter. There have been two real estate developments there.

Q. Where is Potter?

A. By reference to the map, about two miles east of Oak Tree.

Q. What sort of development is there there?

A. It has been divided up by real estate people and farms sold for development purposes.

Q. Is there any house or anything built there?

A. Some houses have been built.

Q. How many?

A. Half a dozen.

Q. Outside of that development there has been no development since that time, has there?

A. There is one being cut up at the present time. There is one near Oak Tree which is being divided at the present time.

Q. And how big is Oak Tree?

A. A little country community with the post office and perhaps twenty-five houses.

Q. Is there that many?

A. I suppose so, in the section called Oak Tree. Oak Tree has no corporate limits.

Q. You don't notice it going through in an automobile, if you are going fast enough.

A. Yes; you go right by the station.

Q. Now, you have not bought any rights of way, outside of the two up at Bound Brook, since 1908?

A. That is right.

Q. And did you purchase those rights of way for the water company?

A. I did.

Q. At the time you purchased them, these prices that you have given were, in your opinion, the fair price at that time?

A. I did not say so.

Q. Well, I am asking you.

A. We purchased them as cheaply as possible.

Q. Well, did you consider that was the market price of the property at that time?

A. Some of it was and some was not.

Q. (By Commissioner Osborne.) When you say you got some of it for less than it was worth?

A. Less than what I considered it was worth. We did not pay any more than we had to.

Q. (By Mr. Hague.) Why it is you have not been able to tell us the price of parcels No. 3, 6, 7, 8, 9, 10, part of 12, and 21?

A. If you will ask each one separately.

Q. All right. Turn to parcel 3. How is it—

A. I have no figures on that at all. That was an easement obtained from the Lehigh Valley Railroad Company and I can find nothing on our books as to any amount paid.

Q. Do you mean the easement was granted without consideration?

A. I do not mean to say that.

Q. There are a number of them obtained from the Lehigh Valley Railroad.

A. Two, I believe.

Q. Well, there is number 3, number 6, number 8. Were there any others obtained from the Lehigh Valley?

A. Three, six and eight.

Q. Can you find out what those easements cost?

A. I just stated I could not find anything.

Q. Can you by looking at the books of the company?

A. I have looked and I cannot find it.

Q. Isn't there any record of what that cost?

A. I could not find any.

Q. Did you get the original grants?

A. Yes.

Q. Those grants are reported, aren't they?

A. Yes.

Q. What do they show?

A. A consideration of one dollar.

Q. And there is no record on the books of having paid any consideration for them?

A. I could not find any.

Q. Are you familiar with these prices that have been filed by the company as the value of these rights of way?

A. No, I am not.

Q. What were the prices that you fixed as the value per running foot, from one to thirty-seven?

A. Two dollars.

Q. What do you base that on, Mr. Townley?

A. On the cost paid by other companies for similar rights of way.

Q. You have not bought any since 1908 outside of these two you acquired from the P. & R. Railroad Company?

A. No.

Q. So you have no knowledge of your own, of the purchasing or selling of rights of way since 1908, have you, outside of those two?

A. Outside of those two, no.

Q. Have you purchased any farm land out in Piscataway Township there outside of these rights of way?

A. No. I have not, personally.

Q. Then you do not know what the price of farm land is out there or whether it has increased or decreased in value?

A. I do not know it has increased.

Q. How do you know if you have not purchased any, from hearsay?

A. Some property which the company has purchased.

Q. What properties did they purchase?

A. They purchased some property at Oak Tree.

Q. How much?

A. Sixty acres.

Q. What other property did they purchase in Piscataway?

A. I don't recollect any other.

Q. What did you pay for that sixty acres?

A. I haven't the figures here.

Q. Well, you say you know what the prices are?

A. I know? I know the property cannot be purchased in that vicinity for two or three times what we paid for it at the time.

Q. When was the sixty acres purchased?

A. About three or four years ago.

Q. Outside of that you have no knowledge of any purchases or sale there that you have been interested in, have you?

A. I have kept back of the price of property in that vicinity through real estate men.

Q. Do you mean hearsay?

A. Yes.

Q. What was the purpose of buying that sixty acres by the company?

A. For a reservoir.

Q. It is not being used, has it?

A. No, sir.

Q. And that is intended for part of this new supply?

A. Yes.

Q. Will you furnish the figures that the sixty acres cost?

A. Yes.

Q. Referring to diagram No. 6, do you know what the rights of way numbered 38, 39 and 40 cost?

Mr. Wherry—I did not ask this witness with regard to these particular ones, may it please the Commission. This is not proper cross-examination.

Mr. Hague—Well, your Honor, this witness has testified he was instrumental in buying all of the rights of way. Of course, Mr. Wherry has not asked him as to what the prices of these

particular three were, but on his direct examination he asked—

The Witness—In Linden Township, and this is in Linden Township.

Mr. Wherry—I did not ask the values of 38, 39 and 40.

Mr. Hague—He testified he acquired the rights of way of the company, and these are rights of way.

Mr. Wherry—It is not proper cross-examination.

Q. (By Commissioner Osborne.) Do you say you had nothing to do with the purchase of these rights of way?

A. I had something to do with it, yes, but I did not close up on the title.

Commissioner Osborne—If he knows anything about it, he having been submitted as a witness for the company, I think he may be interrogated regarding it.

Mr. Wherry—All right.

By Mr. Hague.

Q. You may answer the question.

(Previous question read as follows: "Referring to diagram No. 6, do you know what the rights of way numbered 38, 39 and 40 cost?")

A. (After referring to papers.) No. 38 cost three thousand dollars, and there were othr expenses connected with that, which brought the cost up considerably more.

Q. What were those expenses?

A. They were to put that pipe line across Kaufman's property so it would not interfere with the development of his property.

Mr. Wherry—Do you mean it cost you more to lay that pipe line than it would ordinarily?

Q. That would not have anything to do with the value of the right of way, would it? That was the cost of the pipe line, laying the pipe.

A. It was the cost of the right of way also.

Q. And so the cost of laying the pipe is also included in the case, in the cost of laying the pipe in another part of this case, isn't it? It would be covered by errors and contingencies and so forth, wouldn't it?

Mr. Wherry—Oh, well, it might—

Commissioner Osborne—Errors and contingencies are apt to cover a multitude of sins.

Mr. Hague—That is what they are put in to cover, I presume.

A. In this case we made a survey of this property to see how he could develop it into building lots, at a considerable cost to us.

Q. What did No. 39 cost?

A. $300.

Q. What did No. 40 cost?

A. $525.

Q. Will you turn to diagram No. 23?

A. Yes.

Q. What did No. 43 cost?

A. I don't know.

Q. Did you have anything to do with buying that?

A. No, sir; I did not.

Q. Did you have anything to do with buying No. 44?

A. No, sir.

Q. 45, 46, 47 or 48?

A. No, sir.

Q. Who did?

A. I don't know.

Q. Were they bought before you were with the company?

A. Yes.

Q. How long have you been with the company?

A. Twenty years.

Q. These lines were built there before you came with the company?

A. They were put in about the time I came with the company.

Q. Will the books of the company show what they cost?

A. I do not know whether they will or not.

Q. The line between 43 and 45 runs along the right of way of the railroad, does it not?

A. Yes; it does.

Q. That right of way connects the Sound Shore Line with the Central Railroad, Long Branch Division.

A. Which right of way have you reference to?

Q. The railroad right of way that your line parallels.

A. Yes.

Q. Was that line in there prior to you coming with the water company?

A. The water line?

Q. The water line.

A. I think it was put in about the same time.

Q. Was that the original line running to the Grasselli Chemical Company?

A. The original line to the Grasselli Chemical Company came from Elizabeth.

Q. Is that the line that runs into the Grasselli Chemical Company now?

A. It is coming both ways, from Elizabeth and Linden, now. This comes from Linden.

Q. Does that take the water from the Robinson's branch down to the factories?

A. It does.

Q. Was that right-of-way of the railroad company that parallels—was that built before or after the Sound Railroad built?

A. The Sound Shore line was built before the water line.

Q. How do you get the water from the easterly end of line No. 44 to connect with number 46?

A. We have a pipe line on the west side of the Sound Shore River.

Q. It is not shown here?

A. No, it is not.

Q. Do you mean it connects there with that?

A. Yes.

Q. Do you own any rights there?

A. I think we do, but that deed has probably been lost. That is the reason that Mr. Hill did not find it and did not have it in here.

Q. How does parcel No. 45 connect? That is not shown as connecting with anything?

A. The same thing is true there. Some of those papers were evidently lost.

Q. Turn to diagram 22.

A. Yes.

Q. Parcels numbered 64 to 69. What was paid for those properties?

A. I cannot answer that in that form. If you will ask me from sixty-five—

Q. What was paid for parcel No. 63?

A. I think I do not know.

Q. What was paid for parcel 64?

A. I do not know.

Q. Parcel 65?

A. Parcel 65 was not bought as parcel 65. It was bought in conjunction with the property from 65 to 69, inclusive.

Q. All from one owner?

A. Yes.

Q. What was paid for it?

A. $36,036. That does not include the right-of-way, parcels 41 and 42. That includes 65, 66, 67, 68 and 69?

Q. Was 65 bought at the same time or about the same time?

A. That is what I just testified to, Mr. Hague, that all this property was purchased at once, from 65 to 69.

Q. I beg your pardon. 63 and 64, were they purchased at the same time?

A. No, they were not.

Q. Do you know when they were purchased?

A. About five years ago, I believe.

Q. And the other was purchased when?

A. About three years ago.

Q. Was the price paid for 63 and 64 reported to the Commission in the report?

A. The annual report?

Q. Yes.

A. I do not recollect.

Q. Do the company's books show what was paid for that?

A. I presume they do.

Mr. Wherry—$8,848, for those two parcels.

Mr. Hague—63 and 64?

Mr. Wherry—Yes. 1913 is the date of the purchase.

Q. Do you remember the purchase of the reservoir site for the Watchung Water Company?

A. No, I do not.

Q. Or the land for the Piscataway Water Company? Did you have anything to do with that?

A. No, sir.

Mr. Hague—I think that is all.

Mr. Wherry—We have no further questions.

Mr. Hague—Have you any further witness?

Mr. Wherry—We have no further witness.

By Mr. Herrmann.

Q. In purchasing these rights-of-way, what is your first inquiry, for an easement or for the fee?

A. For the easement.

Q. You find it very much less difficult to get an easement in the land than for a farmer to sell you a strip so many feet wide right through his farm?

A. Yes.

Q. It would be almost impossible to purchase a right-of-way through a farm where you purchased the fee, for a reasonable price?

A. It all depends upon the location of the right-of-way through that farm.

Q. An easement serves your purposes as well as the fee. How deep do you lay your pipes?

A. About three feet. It all depends upon the character of the land. In rolling land we would go deeper through hills, and through hollows we would not go so deep.

Q. Does that require a change in your pipes in the event of any development of the land subsequently?

A. No.

Q. Or does the easement protect you in letting the pipes remain where they are?

A. The easement protects us on that.

Q. What proportion of the price would you say it cost you for an easement as compared with the fee, about a quarter, or would you have no rule by which to gauge that?

A. It is a hard matter to answer that question in that way.

Q. But you pay substantially less for an easement than a fee?

A. I should say as a general rule that an easement could be obtained for a half to three-quarters of what the fee could be obtained for. In many cases it would be impossible to obtain the fee without condemnation proceedings or buying a whole farm and selling off the balance. In a great many cases it would be much cheaper to buy the whole farm and take what you want and sell the balance.

Q. Rather than condemn the same right-of-way?

A. Yes. On a short right-of-way the condemnation proceedings run up to so much money it is hardly worth while to do it.

Q. And an easement costs you from fifty to seventy-five per cent. less than the fee?

A. From twenty-five to fifty per cent. less.

Q. Less than the fee?

A. Yes.

Mr. Herrmann—That is all.

By Mr. Hague.

Q. Mr. Townley, is it possible for the company to sell these easements?

A. These easements are taken by the water company, its successors and assigns. It could be assigned to another water company. They are taken for a water line.

Q. Their only value is for water-line purposes?

A. Yes.

Q. It has no other value?

A. No.

Q. Now, in placing these values on it, did you have in mind that they only had that value, for a water line or for real estate, to sell it for any other purpose?

A. I put this value on as a value for water line, knowing the cost and expense to get these easements. The expense sometimes runs up a great deal more than the price you have to pay for the easement.

Q. If the company found it convenient to change their line of track along the Port Reading Railroad Company, as shown by rights-of-way Nos. 41 and 42, and moved their pipes off, would they have any further rights in that land?

A. Only to lay additional pipe there at some future time.

Re-direct examination, by Mr. Wherry.

Q. Mr. Townley, the value you place on it would be the same whether it was used for a water pipe, or oil pipe or some other pipe, would it?

A. Yes, substantially the same.

Q. And did you include in the costs the costs of your services as an engineer, the engineering and legal fee, or any of those costs?

A. I have included no costs whatsoever except the actual amount paid to the order or mortgagee of the land.

Re-cross examination, by Mr. Hague.

Q. Not in the values that you place on them?

A. The value that I placed on a right-of-way would include the cost.

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Q. And all the figures you fix on that show actual amounts paid?

A. No; I gave you the actual amounts paid. But the value which I place on them would include the value of services in obtaining those, legal services, searching fees and any other costs.

Q. It would include them?

A. It would include them.

Q. Is it usual to include those costs when you are fixing the value on a piece of property for right-of way purposes?

A. Oh, yes; they are necessary expenses.

Mr. Hague—That is all.

Mr. Wherry—The company rests.

Mr. Hague—I want to find out what the cost of these other rights-of-way to the Elizabethtown Company was, and if Mr. Wherry can tell me, whether Mr. or Mr. Whelan can give them. I will call them as my own witnesses.

Mr. Wherry—I cannot tell you.

Mr. Hague—I will call Mr. Whelan.

John W. Whelan, sworn for the objectors.

Direct examination, by Mr. Hague.

Q. You are the secretary of the Elizabethtown Water Company?

A. Yes, sir.

Q. And have been for a great number of years?

A. Yes, sir.

Q. Will you turn to diagram No. 23, rights-of-way? That is, in Linden Township?

A. Have you got the page?

Q. It is about the middle of the book, at the beginning it says, "rights of way" and then it says "diagram No. 23." Over the printed matter in the corner it says "diagram numbers."

Mr. Wherry—I will find it for you, Mr. Whelan.

Q. How long have you been secretary of the Elizabethtown Water Company?

A. Over twenty years.

Q. Were you secretary at the time those rights of way were acquired?

A. Not all of them.

Q. No. 43, 45, 46, 47 and 48?

A. No. Almost all of those rights of way were acquired before I was secretary.

Q. Were you connected with the company at that time, prior to being secretary?

A. No.

Q. Do you know from your own knowledge of the companies just what they paid for these rights of way?

A. I do not.

Q. Will you turn two pages ahead, to diagram No. 23?

A. Yes.

Q. Do you hold any position with the Watchung Water Company?

A. I do.

Q. What is your position?

A. President.

Q. How long have you been president of it?

A. I think about twelve years.

Q. How long has the company been organized?

A. I don't know.

Q. Sometime prior to that?

A. A long while prior to that.

Q. Turn to diagram No. 28, parcel No. 76, the one in red, parcel 76, the Watchung reservoir?

A. Yes.

Q. Do you know what that reservoir costs?

A. I do not.

Q. Are you familiar with it?

A. Well, I know it is there. I have been there a number of times.

Q. How much of it is used for reservoir purposes?

A. Well, I could not say offhand.

Q. How large is the reservoir?

A. That I could not say.

Q. Is it any more than one hundred and fifty or two hundred feet square?

A. I don't know.

Q. Well, you know approximately how much?

A. No, I do not.

Q. You have seen it, haven't you?

A. I have seen it two or three times.

Q. Well, how much of the land would you say the reservoir covers?

A. You mean how much the water—

Q. How much of this parcel, No. 76—

A. Is covered by water?

Q. —is covered by the reservoir? It is all upland, isn't it, high ground?

A. No; there is some of it that is low ground, as I remember it.

Q. I understood it is all high ground. I do not mean the part around the brook. I mean the part in red, marked "parcel No. 76, Watchung reservoir."

A. Yes.

Q. Isn't that all high ground? It runs up to the top of the mountain, does it not?

A. I do not think so.

Q. Well, pretty close to the top of the mountain.

A. It is a good ways from the top of the mountain.

Q. Were you here this morning?

A. No.

Q. When the real estate man testified it ran to the top of the mountain?

A. No, sir.

Q. Well, there are sixty-seven acres and a trifle over in that parcel. How much of it is occupied by the reservoir?

A. I do not know.

Q. Is the reservoir more than two hundred feet square?

A. I do not know.

Q. What is the rest of the land used for, that is not occupied by the reservoir?

A. Well, there is a pumping station there. It is not on this parcel.

Q. I am talking about this parcel.

A. I do not know what it is used for.

Q. Well, what do you hold it for?

A. Simply because it came with the rest of the property.

Q. Is there anything there outside of the reservoir on that tract of sixty-seven acres?

A. I do not know.

Q. You are the president of the company, aren't you?

A. I am.

Q. Don't you know what is on that property?

A. I do not know what is on this particular piece.

Q. Well, it is separated from the other pieces, isn't it? It is only connected by the right of way, isn't it, with the pumping station?

A. Well, there is a right of way there but I do not remember anything about what is on parcel 76, whether there are any buildings on it or not.

Q. Was it acquired while you were connected with the water company?

A. Yes.

Q. You don't know what it costs?

A. Well, the whole property was purchased from the Watchung Water Company.

Q. Do you mean as a going concern?

A. As a going concern.

Q. The pumping station and reservoir site and mains?

A. Yes.

Q. Who purchased it?

A. I do not know.

Q. Well, you say "when it was purchased"—Purchased by whom?

A. I was not the president of the company when it was purchased.

Q. Who was it purchased by?

A. That I do not know. I know who it was purchased from.

Q. Who acquired it?

A. The Piscataway Water Company.

Q. Does the Piscataway Water Company own the Watchung Water Company?

A. Yes.

Q. When was it purchased by the Piscataway Water Company?

A. From memory I would say some time around 1914.

Q. What was paid for it?

A. I don't know.

Q. Are you an officer of the Piscataway Water Company?

A. Yes.

Q. What is your position in the Piscataway Company?

A. I am president of it.

Q. Were you an officer at that time?

A. I was.

Q. What was your position at the time this was acquired?

A. I was president.

Q. And you do not know what it cost?

A. I do not know without reference. Probably—I think—about fourteen years ago.

Q. Mr. Whelan, you are familiar with the development of the Raritan-Millstone water supply, the contemplated development.

A. There is no development at the present time.

Q. There is a contemplated development?

A. Yes.

Q. And there has been some money spent on it, hasn't there?

A. Yes.

Q. And that money is included in this valuation, is it not?

A. No; I do not think so—not all of it.

Q. Is not the land, parcel No. 52, along the Lehigh Valley Railroad, on the road from South Plainfield to Oak Tree, the site of the proposed reservoir in Raritan

Township—is not that part of the contemplated extension of the water supply to the Raritan and Millstone?

A. Do you mean that Oak Tree?

Q. Yes.

A. Yes.

Q. Isn't the real estate on rights of way in the name of the Somerville Water Company at and below the junction of the Raritan and Millstone Rivers, as shown on diagram No. 2, being parcels 63 to 69, inclusive, along the Raritan River, is not that part of the contemplated new water supply?

A. I don't know.

Q. What other purpose was it acquired for? Just let me take that book and I will give you the—the land is shown on diagram 22. Is not that part of the contemplated additional supply?

A. This is the property that we purchased from the Port Reading Railroad.

Q. For the purpose of developing the supply at the junction of the Raritan and Millstone?

A. Not particularly for that. It could be used for any purpose which we might want it for.

Q. What other water works purposes could it be purchased for?

A. I think at the time there was some idea that might be good property for well development.

Q. For what company?

A. For the Piscataway. But I think that the main reason for the purpose of that property was in connection with this supply.

Q. And what companies have joined in that scheme?

A. Well, as a matter of fact, there hasn't any joined in it. The idea, though, is for the Plainfield and the Elizabethtown.

Q. And Middlesex?

A. And the Middlesex, but there is no agreement.

Q. The scheme contemplates the supply of the Elizabethtown Water Company, the Plainfield-Union and Middlesex Water Company, doesn't it?

A. Yes.

Q. And this is all included under the Elizabethtown Company?

A. Yes.

Q. Although the others would have an interest in it also?

A. Well, of course, if they get the water there would have to be some arrangement made whereby they would all be interested.

Q. Now, why is this property included in the valuation of the Elizabethtown Company when the title to this property is in the name of the Somerville Water Company?

A. It was a legal matter. I do not know why.

Q. Does this property belong to the Elizabethtown Company, the Piscataway Company or the Watchung Company or the Middlesex Company or the Plainfield-Union?

A. The Elizabethtown Company advanced the money for it.

Q. And in the event of the development of the supply the Elizabethtown Company, Plainfield-Union, and Middlesex Water Company would share in the supply?

A. I do not know how that would be.

Q. Isn't that the scheme?

Mr. Wherry—That is the scheme. It might be developed by the Elizabethtown Company alone.

Q. Well, isn't that the scheme?

A. There is no scheme that I know of.

Q. Didn't you testify in this case last year, in the Elizabethtown Company case here last year on the question of service, when Mr. Bergen testified?

Q. Didn't you testify at that time?

A. I don't remember. I do know this: that there is a scheme to develop the Raritan and the Millstone for the purpose of getting additional water supply.

Q. For the three companies named?

A. Well, of course, I cannot say positively that the three companies named will go into it, but it will be developed and the three companies will be given an opportunity to go into it.

Q. It will be developed by whom?

A. Well, that I do not know.

Q. Then why is this property included in this valuation before the Board now?

A. Because this property might have passed from the hands of the Reading Company to other people.

Q. Is there any water being supplied to the consumers of the Elizabethtown Company in any way from this land shown on this diagram No. 22?

A. No.

Q. What is the nearest point to this land that the thirty-six inch main of the Piscataway Company has reached? About what is the distance from this land?

A. That I could not say.

Q. You have been secretary of the Elizabethtown Company for twenty years?

A. Yes.

Q. What were the dividends paid last year?

A. On the first of January the dividend was at the rate of ten per cent a year, five per cent paid, and on the first of July, three per cent, equal to eight per cent.

Q. Was that 1920?

A. 1921.

Q. What was 1920?

A. Ten per cent.

Q. And 1919?

A. Ten per cent.

Q. How many years back did it go at ten per cent?

A. I could not say from memory.

Q. Ten years?

A. Well, I should say about ten years.

Q. Twenty years?

A. No, not twenty years.

Q. What did it pay twenty years ago?

A. I don't remember.

Q. What did it pay the first year you were secretary?

A. That I don't remember.

Q. Do you remember any year that it has not paid ten per cent?

By Commissioner Osborne.

Q. Can you furnish a statement of—

A. I can furnish a list of dividends for the last twenty years.

Q. (By Mr. Hague.) Will you furnish that, Mr. Whelan?

A. I will.

Commissioner Osborne—What company do you want it for, all of them, or just one?

Mr. Hague—I would like to have it for all of them.

Witness—There is only one company that has paid. The Watchung Company has paid no dividend and the Piscataway Company paid no dividend. Just the Elizabethtown Company paid a dividend.

By Mr. Wherry.

Q. What is the capital of the Elizabethtown Company?

A. A million dollars.

Q. Is it on that basis?

A. Yes.

Q. Has it been the same during all the periods—

Mr. Wherry—Well, I will furnish the capital and dividends and the rate of dividends for twenty years.

Commissioner Osborne—Is that what you want?

Mr. Hague—Yes.

By Mr. Hague.

Q. You say the Watchung Company has not paid any dividend since you have been connected with it?

A. For twenty years.

Commissioner Osborne—That will be furnished also, Mr. Wherry—since they have been organized—as far as you can go.

Mr. Wherry—Yes.

Mr. Hague—I think that is all.

Commissioner Osborne—Have you any other witnesses?

Mr. Hague—I have Mr. Fuller here. I guess I had better put him on and start him off.

Commissioner—Osborne—Very well.

Weston E. Fuller, sworn on behalf of objectors.

Direct examination, by Mr. Hague.

Q. Mr. Fuller, have you examined the plant of the Elizabethtown Water Company?

A. I have.

Q. Have you examined the inventory of this property as made up by Mr. Hill and submitted in this case?

A. I have.

Q. Will you describe briefly the supply works of this company?

Mr. Wherry—Do you want to state his qualifications? What are you going to qualify him as?

Mr. Hague—Do you question his qualifications?

Mr. Wherry—Is he going to qualify as a financial expert or a real estate expert, or what?

Mr. Hague—As Mr. Hill qualified.

Commissioner Osborne—Why waste time about it? If you expect to ask him questions as an expert you should qualify him, unless you ask the other side whether or not they admit his qualifications for certain things. He has not been qualified in this case before, has he?

Mr. Hague—No.

Q. What is your business?

A. Consulting civil engineer.

Q. How long have you been engaged in that business?

A. About twenty-three years, or twenty years.

Q. Are you a graduate of any college?

A. Cornell University.

Q. Do you hold any degree of that college?

A. A degree of civil engineer.

Q. Have you had any experience in the valuing and development of water companies?

A. Yes, sir; I have devoted practically all of my time to water works and water power, or work of that character, since my graduation.

Q. Covering a period of how long?

Mr. Wherry—I will admit Mr. Fuller has qualified as a valuation expert.

Q. Have you been engaged in the erection and construction of water plants?

A. I have.

Q. Where? What properties have you been engaged in the construction of?

A. Plants at Toronto, Ontario; Springfield, Massachusetts; Yonkers, Poughkeepsie, Peekskill, Ogdensburg, Watertown, New York; Ithaca, New York; at Portland, Maine; at Miami, Florida; at San Francisco and various other places.

Q. What did your work on those jobs consist of?

A. Well, it consisted in the design, and in many cases supervision of construction, and in other cases in advising the operation of the plants, and valuing the property and various matters of that sort that a consulting engineer takes up.

Q. Laying of pipe lines and transmission lines?

A. Yes, sir, and the building of dams and reservoirs.

Q. Is a knowledge of real estate useful in connection with that?

A. Well, I have at times had occasion to value the real estate; yes, sir.

Q. And values of material and labor goes into the building of a plant of that character?

A. That is always necessary, to estimate the cost of production.

Q. Are you familiar with the operation of water plants?

A. Yes, sir; I am.

Q. And the financing of water plants, are you familiar with that?

A. Yes, sir; I have had some experience in the financing of water plants, water companies and municipal plants.

Q. What particular plant?

A. Well, I have been interested considerably in the Florida plants, the financing of the plant in Watertown, Superior, Wisconsin, and many other of the new projects that have gone through our office; I have been interested in the financial arrangements and have studied that matter in a great many cases.

Q. Have you made valuations of plants for the purpose of purchase or sale?

A. Yes, sir.

Mr. Hague—I offer Mr. Fuller as a witness.

By Mr. Wherry.

Q. Mr. Fuller, you say you have had some experience in financing utilities?

A. I have had experience in financing facilities, in the way of advising other people and consulting with them.

Q. When, what date?

A. In the last year and previous to that.

Q. Since the Commonwealth case? When did you testify in the Commonwealth case?

A. I do not know; a few weeks ago.

Q. I do not mean the most recent Commonwealth case, but when you testified to the valuation of the Commonwealth?

A. I should say that was about 1917 or 1918.

Q. You recollect that then you stated that you did not qualify as a financial expert. Do you consider now that you have better qualifications as a financial expert than you had then?

A. If I was asked the question whether I had experience in financing utilities, I would say yes.

Q. And do you think that qualifies you as a financial expert? Are you any more qualified than you were when you testified in the Commonwealth case in 1918?

A. Yes, sir; I think I am; I have had some experience since that time.

Q. As a tax expert, do you consider you have had some experience since then and are better qualified?

A. I know somewhat more about the tax part of the game than I did at that time.

Q. Well, you consider you are qualified to act as a tax expert?

A. No, sir. I have not tendered myself as a tax expert.

Q. Have you tendered yourself as a financial expert?

A. No, sir. I am answering the questions of Mr. Hague.

Q. I am willing to conceive that you are qualified to testify as you did in the Commonwealth case, when we went thoroughly into your qualifications, and in that case I think you testified you were not qualified as a financial expert, as tax expert nor as land expert.

Commissioner Osborne—Suppose we first ascertain from counsel who offers the witness the extent of the offer. You offer this witness as an expert in what?

Mr. Hague—The same as the witnesses that have been offered by the other side.

Commissioner Osborne—That is no answer to the question. You must know what you are doing. You offer him as an expert on what?

Mr. Hague—As an hydraulic engineer.

Commissioner Osborne—Not as a financial expert?

Mr. Hague—If he has had some experience in it—he has had more experience in these cases than Mr. Townley or some of the other experts in the case have.

Commissioner Osborne—That is not the way to put it at all.

Mr. Hague—Well, I will offer as a hydraulic engineer. Does Mr. Wherry object to it?

Mr. Wherry—It is objected to, yes.

Commissioner Osborne—Do you offer him as anything except an engineer? Do you offer him as a financial expert?

Mr. Hague—Possibly I will, and if I have any questions on that.

Commissioner Osborne—If you want to, say so, and then Mr. Wherry will know where to limit his cross-examination as to qualifications. We are trying to find out the scope of this witness' testimony. Counsel cannot cross-examine properly on the qualifications. He does not know where to object or where not to object, unless he understands at the beginning the scope of the testimony of the witness as an expert. If you put a doctor on the stand and ask him questions as a blacksmith, he does not qualify. If you put this man on the witness stand as a water engineer, you can qualify him, probably, as a water engineer. If you put him on as a financial expert maybe you can qualify him, or not; I do not know. I cannot rule intelligently on questions if they are objected to unless I know the scope.

Mr. Hague—I will put him on as a water engineer, and if I elect to examine on the other questions, Mr. Wherry can cross-examine at the time.

Mr. Wherry—I will admit Mr. Fuller's qualifications as a hydraulic engineer, and in operation of properties of this character, but we do not admit any qualifications beyond that.

Mr. Hague—It seems to me there is the same latitude for my witness—that it is not extended

as it was for the witnesses put on by the water company.

By Mr. Hague.

Q. Will you describe briefly the supply of water of this company?

A. The Elizabethtown Water Company obtains its source from little sources; that is, the Springfield, the Hummocks and the Elizabeth River.

By Mr. Wherry.

Q. Is this from a survey you made, Mr. Fuller?

A. That is from examination of them.

By Commissioner Osborne.

Q. Did you make a personal examination of this plant?

A. Yes, sir.

Q. (By Mr. Wherry.) This is a personal survey you yourself made?

A. Yes. It also obtains some water from one of the affiliated companies, the Piscataway Company, and a small amount from the Watchung Company. Beyond that, it buys water from many other sources. The Springfield and Hummocks supply was taken from wells by means of an air lift equipment. The Elizabeth River supply is taken directly from the river for purification by means of filtration and chlorination. The Piscataway supply is taken from wells, but without the actual use of the air lift at the present time.

By Mr. Hague.

Q. The company also purchases a lot of water?

A. Yes.

Q. Is the equipment used by your Elizabethtown Water Company in securing its water, efficient equipment?

A. No, sir; it is not.

Q. Will you state in what way it is not efficient?

A. The equipment used by the Elizabethtown Water Company is old and of a type that is not efficient in pumping its water. The supply taken from the well systems is taken by means of an air lift, and in their efforts to get water they have taken it at lower level, trying to get all the money that they can get out of it, which has increased the expense of obtaining the water very largely, because the cost of taking the water out of the ground by the air lift system is an expensive matter.

Commissioner Osborne—As compared with what?

A. As compared to taking it from a river or from wells, without the air lift, the object of the air lift being to take the water beyond the reach of the ordinary suction pump.

Q. And the other type, the ordinary well, you take it by suction pump?

A. Not more than twenty feet in the ground, which is practically the limit of the suction pump.

Q. (By Mr. Hague.) Would it be cheaper, in your judgment, for the company to replace some of the equipment of the Elizabethtown Water Company with new and modern equipment, taking into account both the capital costs and the cost of operation?

A. It would; yes, sir. It would be cheaper to scrap much of the equipment if it is to be used any considerable length of time.

Q. Can you illustrate this by any specific case?

A. The pumping equipment of the Elizabeth River station is old and inefficient, and a large amount of coal is used to pump the water by this equipment. With new and modern equipment the saving in coal would more than pay the interest depreciation and other charges on the new equipment.

By Commissioner Osborne.

Q. Does your criticism of the equipment relate particularly to the boilers or pumps or both?

A. Not to the boilers, but to the pumps.

Q. The boilers are modern?

A. I think in most of the stations they are, yes, sir.

Q. You say the pumps are obsolete or too old for efficient service?

A. Well, some of the pumps are extremely old and not used in modern stations. They have been replaced in modern stations, by other equipment.

Q. How old are the pumps? Do you know?

A. Some of them are as much as, as I recollect, forty years.

Q. Is that considered old for a pump, taking into consideration the advance in the art?

A. That is very old. I know of some pumps, I think, as old as that, some of the old Hanley pumps, which were in their day very efficient pumps, but are being replaced and gradually disappearing, and these pumps are not as good a type of pump.

Q. The modern pump can be operated more economically than the older types?

A. It can, yes, sir. There have been many improvements in the methods of operation of pumps.

Q. (By Mr. Hague.) What saving in coal would there be by the installation of modern pumps?

A. I should say at the Elizabeth River station that after taking into account capital charges on the new pumps, the saving would be probably five thousand dollars a year, in the saving of coal.

Q. Is the method which this company uses of distributing its water an economical one?

A. No, sir, it is not. The method of distributing water and selling it at a flat rate basis is not an economical one. Where companies had a large supply of water and have their equipment so they can supply the water at moderate cost it may be that it does not pay to put in the meters, except to prevent a large capital cost; but where the companies have to buy the water or where it costs a lot to obtain it, it is perfectly clear that the saving effected by meters is large and it should be made by many companies at this time.

Q. Then do you mean that if there were meters installed on services now on the flat rate the company would effect considerable saving?

A. I do; yes, sir.

Q. Is the method of selling water by meter generally accepted in this country at the present time?

A. Yes, sir; it is pretty generally accepted.

Commissioner Osborne—I think this Board is on record on the question of meters, generally and in this case.

Mr. Wherry—The company is on record too.

Mr. Hague—Not before the Board. It was taken into court.

Mr. Wherry—Not on the question of the advisability of meters.

Commissioner Osborne—No. As to the ability.

Q. How is the water that is obtained from the Piscataway Water Company and the small amount obtained from the Watchung Water Company served to the consumers in the City of Elizabeth?

A. This is carried through a thirty-six inch main which leads from Bound Brook to Linden and thence through a thirty-six inch and a twenty-four inch main to Elizabeth.

Q. Is this thirty-six inch main necessary for this purpose?

A. No. That is, the main is larger than is necessary to carry that amount of water. Apparently this main was laid in contemplation of taking a larger supply, from the Raritan River at the junction of the Millstone. I think it is admitted that that is a part of the general scheme.

Q. Does it also take care of any water from any other company?

A. A part of it takes care of the water purchased from the Middlesex Company, and perhaps one or two other sources.

Q. So this thirty-six inch main is a part of a future contemplated supply which has not yet been put in?

A. Yes, sir. I think in a large extent that is true, although it is used to a lesser extent now.

Q. Are there any other items in the inventory presented to the company which are a part of this additional supply?

A. I think that the land at the junction of the Millstone and Raritan Rivers, and also the reservoir site in Raritan Township are a part of the proposed scheme of getting a new supply from the Raritan and Millstone.

Q. (By Mr. Wherry.) Which were those?

A. The land at the junction of the two rivers and the reservoir site in Raritan Township, I think it is.

Q. Oak Tree?

A. Near Oak Tree; yes, sir.

Q. (By Mr. Hague.) Is the distribution system of this company in the City of Elizabeth sufficient for an adequate water supply to that city?

A. No, sir; I do not think it is.

Q. In what respect?

A. The pipes in the system are not large enough to furnish a full and adequate supply for all purposes. A general reinforcement of the supply to the city is needed.

Commissioner Osborne—I suppose this witness' testimony will take some considerable time?

Mr. Hague—Yes.

Commissioner Osborne—It is now four o'clock. How soon will you gentlemen be ready to continue?

(After discussion.)

Commissioner Osborne—I will put it down tentatively, unless you hear from me to the contrary, for the 15th of December.

(Adjourned to Thursday, December 15th, 1921, at Kinney Bldg., Newark, N. J., at 10:30 o'clock in the forenoon.)

BOARD OF PUBLIC UTILITY COMMISSIONERS.

Newark, N. J., Thursday, December 15, 1921.

Elizabethtown Water Company, Watchung Water Company, Piscataway Water Company and Raritan Township Water Company—Increased Rates.

Before Commissioner Harry V. Osborne, Esq.
P. Betts, Esq., Chief Inspector.
For Petitioners appears W. M. Wherry, Esq.
For City of Elizabeth appears Joseph T. Hague, Esq.

Mr. Wherry—We were requested to give the last twenty year dividend records of the companies; the only one that paid a dividend was the Elizabethtown Water Company. Here is a statement of the dividends (producing paper).

Commissioner Osborne—You want to offer this as an exhibit?

Mr. Wherry—I was requested to produce it.

Mr. Hague—It was produced in answer to a question which was propounded, I think, to one of the witnesses.

Mr. Wherry—Yes, you asked Mr. Whelan to prepare it.

Mr. Hague—Yes.

Mr. Wherry—I believe, Mr. Commissioner, you directed me to prepare a synopsis of the terms of all of these deeds conveying the easement to the company; I have got that in rough notes, but not yet copied for filing. I will have it copied and will file it in a day or two.

Commissioner Osborne—I think Mr. Hague wanted those. You will have a copy made for Mr. Hague?

Mr. Wherry—Yes.

Weston E. Fuller, recalled on behalf of Objector, City of Elizabeth.

Further direct examination by Mr. Hague.

Mr. Hague—I am going to ask this witness some questions along the line of the trend of prices of material and labor, and some on money rates, matters relating to values. I think he is qualified, and I think you admitted I qualified him as a hydraulic engineer. I will, therefore, qualify him further, if it is satisfactory.

Q. Mr. Fuller, where are you in business?

A. New York City.

Q. And are you connected with any firm?

A. I am a member of the firm of Hazen, Whipple & Fuller.

Q. And have been for how long?

A. Since 1908.

Q. And you or your firm had the valuating of water plants in this vicinity?

A. Yes, sir; a good many of them.

Q. (By Commissioner Osborne.) Is that an engineering firm?

A. An engineering firm, yes, sir; particularly on water works, sewage systems, hydraulic works in general.

Q. (By Mr. Hague.) The other members of your firm, are they engineers, all of them, Mr. Hazen?

A. Mr. Hazen and Mr. Whipple are engineers and Mr. Pierce and Mr. Evans are engineers.

Q. How many water plants have been built under the supervision of you or your firm, of which you have knowledge?

A. Well, a great many of them; I don't know as I can say how many, but we have done work all over the country; in some of the larger cities of the country we have designed and had supervision of the work.

Q. You might mention some.

A. Springfield, Massachusetts; Portland, Maine; three different jobs in Yonkers, New York; Peekskill; Newburgh; several jobs in Poughkeepsie, New York;

Watertown; Ogdensburg; Oswego; Auburn; Ottowa, Ontario; Toronto, Ontario; Peterboro, Ontario; Guelf, Ontario; Brandon, Manitoba; Brisbane, Australia.

Q. Were those all construction jobs?

A. Not all of them, but a large number of them; Toronto and Springfield, Ogdensburg and Watertown—

Q. And what were the others?

A. The others were reports on improvements and design of works and general advice along the lines of water works.

Q. Have you made valuations of water works and water works property?

A. Yes, sir; I have made many of them.

Q. For what purpose?

A. For the purpose of rates and also for the purpose of sale.

Q. And how many properties of that kind have you made valuations of for the purposes of rates or the purposes of sale.

A. For water works, I should say perhaps fifteen. I have also valued other properties, water powers, gas works.

Q. And were they for the purposes of rate making or for the purposes of sale?

A. Well, for water powers, they were in damage cases; in the water works, they were both for rate making and for the purpose of sale.

Q. Are you engaged at the present time in any appraisal work?

A. Yes, sir; a number of cases.

Q. Where?

A. Well, I have at the present time some four or five cases in the City of New York; those are damage cases against the city on the new aqueduct work; those cases are brought by other power owners; I have been called for the city in some six or eight of those cases.

Q. Including valuations of land?

A. Including valuations of land, the value of property. I am also engaged in the valuation of the New-

port News, Virginia, water works for rate making purposes, and I have recently been engaged in the Tintern Manor valuation, in which I appeared before this Commission some years ago, and in one or two other smaller cases that are not very active right now.

Q. Are you familiar with the trend of prices of material and labor, and of money rates?

A. Yes, sir; I have made a study of that.

Q. And to what extent? Just explain that.

A. We have always followed the course of prices of material and labor closely; that is very important in all of our work.

Q. (By Commissioner Osborne.) It is necessary for you to do that in order to make valuations?

A. Necessary to make valuations and necessary to make estimates of cost; it is a very important item when we are doing work of that sort. When we do municipal work that is one of the important items that those interested want to know about, so that the prices are very large elements in an engineering business, and since the violent changes in prices I have made a special study of that to ascertain as nearly as I could what the trend was and what the probable trend of prices would be.

Q. And have you made a study of the money rates?

A. Yes, I have followed the course of money rates. I studied the various papers, the trend of the money rates, trend of bond prices from the financial papers. That also is an important element in our work, not only in valuation, but in the other lines.

Commissioner Osborne—Do you wish to cross-examine on his qualifications, Mr. Wherry?

Mr. Wherry—I would like to ask him a question or two.

By Mr. Wherry.

Q. Mr. Fuller, you recollect I called your attention to it before in the Commonwealth Case, you disclaimed any qualifications as a financial expert; you said, "I have not qualified as a financial expert." Now, do you con-

sider that you are to-day better qualified as a financial expert than you were then?

A. Yes, sir; I don't know that I said at that time that I could not qualify as to having knowledge of financial matters, but I think I did say that I did not qualify in that case, and presumably it was the contention that I was not qualified.

Q. Do you consider yourself qualified to-day as a financial expert or simply only on the trend of prices that you have made a study of?

A. I am not intending to qualify as a financial expert.

Q. You mean, as an accountant?

Mr. Hague—I think he said before he wasn't a financial expert.

Commissioner Osborne—What do you mean by a "financial expert"? "Financial expert" is rather a big term. I think he is entitled to have you ask him more specifically.

Q. The study which you made is in regard to the prices and yields of bonds, is it?

A. That is one of the things, yes.

Q. What else?

A. Also a study of interest rates which have been controlling for many years.

Q. Interest rates. Have you done any financing yourself, attempted to raise any money for any utilities?

A. No, sir; I have not promoted any of those projects, if that is what you mean. I have been interested in the raising of the money, in the way of advising and consulting with the financial men for the companies.

Q. In connection with that, did you make a study of the prices that bonds were bringing and stocks were bringing?

A. Yes, sir; I have.

Q. You studied that from the papers?

A. Well, from the papers and also from the actual experience of some of these companies.

Q. But that is the line that you are going to testify on in this case?

A. I assume that that is one of the lines; yes, sir.

Mr. Wherry—I think my objection will go rather to the weight of his testimony than to his qualifications, with the statement that he has made that he will testify from a study that he had made of the subject and from his own actual experience.

Commissioner Osborne—If you find any questions arising that are not along the scope of his qualifications as indicated on the record, you may make any objection. I think Mr. Hague has qualified him sufficiently for the purpose of examining him as a financial expert, in so far as that term applies to unit prices and price trends and money rates.

Witness—May I suggest that the record, as it stands—I think I was interrupted when I said I was not qualified as a financial expert, when I was explaining that; I think you interrupted me at that time and perhaps the record should be corrected to that extent. The answer to the question, as I remember it, is that I did not qualify as a financial expert.

Commissioner Osborne—Do you want to amplify your answer?

Witness—I would like to amplify my answer by saying that I do not qualify as a financial expert in the sense of being directly connected in the selling of bonds or stocks, a financial man in that sense; my answer is that I have made a study of that matter in these rate cases and valuations.

Commissioner Osborne—You may proceed. I think he is qualified, as far as the apparent scope of the examination.

Q. (By Mr. Hague.) I think we were talking on the cement pipes at the time of adjournment. Mr. Fuller, what is the condition of the cement pipes, as to structural strength and their capacity?

A. These old cement lines are not strong enough to stand the pressure which should be maintained for the best service in Elizabeth. These cement-lined pipes used to be put in a great many water works; you will find a great many in New England that have, to a very large extent, been removed, referring now to the old style of cement-lined pipes. The pressures which were maintained on that system are not regarded as proper for water works purposes. As to the capacity of the pipes, in a general way, not only the cement line, but the others there, need reinforcement.

Q. You mean there are not sufficient mains at the present time to furnish an adequate supply of water to the various portions of the city?

A. I mean that the system needs larger pipes. If they were building a new system, very likely the size of the pipes would be increased in a great many places, but that is a common trouble, I think, with such systems and the method used is to put in larger pipes and connect them up so as to utilize the balance of the pipe to the best advantage, but Elizabeth does need such reinforcements at the present time.

Q. Have you computed the total amount allowed by Mr. Hill in his appraisal for the supply works of this company, including in the supply works all of the well systems and the Elizabeth River system, together with the transmission pipes which are used to bring the water to the City of Elizabeth, the reservoirs connected therewith, and also the land, right of way, and other things involved in the proposed water supply system?

Mr. Wherry—I object to the question as a question which is not proper in form. He is asking this witness to compute what another witness has testified to; I don't think that question is a proper question.

(Question read.)

Commissioner Osborne—I don't quite grasp the significance of that. Perhaps the witness may understand it, and I may not understand it

because of my lack of technical knowledge. It may be that my inability to grasp it is due to my lack of understanding it technically.

Mr. Wherry—Perhaps I don't understand it.

Commissioner Osborne—I don't know what he means by computing something in that connection.

Q. Mr. Fuller, have you gone over the total amounts allowed by Mr. Hill in his appraisal of the water supply of this company?

A. Yes, sir.

Q. Have you included the Piscataway and Raritan Companies and the Watchung Company?

A. Yes, sir.

Q. Will you state the total amount which Mr. Hill gives as the cost of these water supply works?

Mr. Wherry—I object to that. What Mr. Hill testified to speaks for itself.

Commissioner Osborne—Objection sustained. You can ask him if he recalls it, in order to tie it up with further information which you want, but asking him to state it, he may state it inaccurately.

Q. Is it your opinion that the Watchung Water Company should be included—

Mr. Wherry—I object to this question. It is clearly leading and improper in form. The witness ought to be allowed to testify.

Commissioner Osborne—Let him finish it.

Mr. Hague—Strike the question out.

Q. Did you go over the Watchung Water Plant, Mr. Fuller?

A. Yes, sir, I have been over it.

Q. And with the idea of ascertaining in what way that water was supplied to the Elizabethtown Company?

A. Well, I have studied the records as to the amount of water the Watchung supplied to the Elizabethtown.

Q. What, if you recall, was the total amount of water purchased by the Elizabethtown from the Watchung, in round figures?

A. It varies for different years, and as I recall it, that is a matter of record I don't like to state.

Commissioner Osborne—Mr. Hague, if this witness has made a careful study of this problem, wouldn't we perhaps save a little time if we just let him tell his story in his own way and bring out the points that he and you have considered material. He has already told us at the last hearing he pointed out certain inadequacies in the plant.

Mr. Hague—Yes.

Commissioner Osborne—Now, if he could perhaps just go on without questioning him minutely, it might save a good deal of time. I merely mention it to facilitate the proceeding.

Q. Have you examined all of the different water works companies that go to make up a part of the system, as included in this appraisal?

A. Yes, sir, I have been over all the property.

Q. Will you explain just what you found in connection with the various companies that did not, in your opinion, appear as a necessary part of the Elizabethtown system?

A. The Watchung Company supplies a comparatively small amount of water to the Elizabethtown Company; the greater part of the Watchung supply in recent years has been taken by the consumers of that company, exclusive of the Elizabethtown. I assume that the Watchung Company was purchased by the Elizabethtown Company purposely, at least, to obtain an additional supply, but the amount of water so obtained is so small that it doesn't seem as if the Watchung Company should be included, unless it is to be taken more or less at its cost or something approximating its cost. Under those conditions, I should say it would be fair to include the entire Watchung Company as part of this general system.

Q. Has the Watchung Company much water left after supplying its local consumers?

A. No, sir, it does not sell much to the Elizabethtown.

Q. And is the amount of water which is obtained by the Elizabethtown Company of sufficient quantity to warrant that as being included as part of the property in the Elizabethtown system?

Commissioner Osborne—He has already answered that by saying that that, if it is included at cost, yes, but if it is included at anything more than cost, no. In other words, if you buy at a given price and then double that value for rate making purposes, he would say no.

Witness—It is too speculative a supply to be included if there was any other way of getting the water. So far as the Piscataway and Raritan Companies are concerned, those companies are largely supply companies to the Elizabethtown Water Company; the largest part of their works and their transmission main is thirty-six inch line, and that was undoubtedly put in for the purpose of bringing water to the Elizabethtown Company. The supply works of the Piscataway Company are not large and this main was not built for the purpose of taking the water from those supply works alone, so that these two companies, the Piscataway and Raritan Companies, are really a part of a general scheme to obtain an additional water supply for this company and for other companies, as I understand it. I have included in my rate base, I think, substantially all of the items which Mr. Hill has reported in his appraisal.

Q. Will you state what elements you considered in fixing the fair value of the Watchung property for rate-making purposes?

A. I considered first the actual investment which these companies had made in their plant, in building up their business up to the present time under the conditions which were encountered in the building of the

plant; I considered also the probable cost of reproducing the property owned by this company and by the other affiliated companies and which is used for public service, on the basis that the property built before the war, reproduced under conditions which existed for a period of ten years prior to the outbreak of the war, that is, for that period up to the end of 1916, and for all property put in since that time, and its actual cost to the company. I considered as a third element the outstanding stocks and bonds of the company and the other indebtedness. As a fourth element I took into account the influence of the present prices and of inflated prices, as have existed in the past few years; I took into account the effect which those prices had upon the property. As a fifth element I took into account the earnings of the company in the past in two ways—first, as affecting the cost of development of the business, and second, as showing what was considered a satisfactory return on the property by the company itself. As the sixth element I took into account the effect on the value of the property of the uncertain present conditions and the effect on this value of the trend of prices which may be expected in the future. As the seventh element I took into account the general conditions existing in business in this country at the present time.

Q. Will you take up the first element and state how you considered it in fixing the value?

A. The first element was a determination as nearly as I could of the actual cost to the company of the property now used for the public service.

Q. (By Commissioner Osborne.) That is, the so-called historical value?

A. That is the so-called historical value, yes, sir; getting as nearly as we could the actual cost.

Q. From the books?

A. From the books, yes, sir.

Q. What you couldn't get from the books you had to estimate?

A. In this case we took everything from the books.

Q. The records were sufficiently complete to enable you to do that?

A. I assume that what was included in the books represented the properties which they had built, except to this extent, that I did deduct something for property which had been abandoned and added to that something for overhead expenses which had been incurred, which I find in many cases are not included to their full extent on the books. This represents what would be my judgment of the cost to the company of building these works.

Q. How many years does that cover, what period of years? How long was this system in the process of development?

A. As I recall it, back in the fifties; I would have to look up the exact date.

Q. It is very old?

A. It is an old company, yes, sir, but a large part of this property has, of course, been built in the last fifteen or twenty years.

Q. The original company was the Elizabethtown Water Company, was it?

A. Yes, sir; the other companies are more recent.

Q. (By Mr. Hague.) Did you finish the first element, Mr. Fuller?

A. I have included all of the costs and have added something to the Elizabethtown cost for the overheads and have deducted something for property which has undoubtedly been abandoned. For the Raritan Company and the Piscataway Company I have deducted, first, the items which were included in their reports to the Commission which were not a part of the costs of the physical property, and then added in an allowance for construction overheads. Some of these items included in their reports are clearly either intangible values, that is, items that may be promotion expense or interest during the building up of the business; those items I have deducted first and then added the construction overheads.

Q. Will you give me your analysis of these book costs?

A. The amounts as carried on the books of the company, as reported to this Commission, are as follows: Elizabethtown Company, $2,419,477; Piscataway Company, $418,666; Raritan Company, $165,747; Watchung Company, $215,441; a total of $3,219,331. There is a depreciation reserve carried by the several companies of about $307,783. This leaves as the book cost, less depreciation reserve, $2,911,447. The amount of depreciation carried in this depreciation reserve is clearly not as much as the actual depreciation which has has been built up two per cent. per year since 1913 and occurred on these properties; that depreciation reserve no depreciation was taken off before that period. The actual depreciation which I have computed in making up the values for the cost of reproduction is approximately twenty per cent. on the property. I have, therefore, taken off an additional amount to make the total depreciation $643,844. This means deducting substantially $336,000 from the above value, which leaves $2,575,000, which I have taken as the book cost less the depreciation which I think should be allowed on this property.

Now, there must be a very considerable amount of property abandoned in the Elizabethtown Company; this can be seen from the fact that new structures have replaced some of the older equipment. The amount of this I have not been able to ascertain, and I have had to assume it from my experience with some other company, but I have taken as a figure for that, $100,000. I have then deducted from this value reported to the Commission the items in the Piscataway and Raritan Township Companies which are not a part of the physical property, cost of the physical property, and have deducted the property which Mr. Hill eliminated from his valuation as not used and useful by the company, consisting of some land and buildings used as storehouses for other parties. These amounts are as

follows: For the items included in the Piscataway account, but not a part of the cost of the physical property, $65,398; the Raritan Township Company, $59,732; as an estimate of the property not used and useful in Mr. Hill's classification, $26,000; that makes a total reduction for property abandoned and these other items of $251,130, which, deducted from the above amount of $2,575,000, leaves approximately $2,325,000. I then added to that an allowance for the overheads which were probably not charged on the books of the Elizabethtown Company of seven and a half per cent., or approximately $167,000, giving a round figure of $2,500,000 as the book value of the property after deducting a reasonable depreciation.

Commissioner Osborne—Mr. Wherry, what was Mr. Hill's value on that?

Mr. Wherry—What was his estimate of the book value?

Commissioner Osborne—Final estimate, do you remember? What was his final estimate of the proper value for rate-making purposes?

Mr. Wherry—His value for rate-making purposes came to about $4,000,000, I think; I think that is not far away from it.

Mr. Betts—The Elizabethtown, only $4,080,000, on the rate base adopted by Mr. Hill; it isn't added together anywhere.

Commissioner Osborne—I thought perhaps you might recall it.

Mr. Betts—For the Piscataway Water Company Mr. Hill takes a rate base of $750,000; for the Watchung Company a rate base of $270,000, and for the Raritan Township Water Company a rate base of $250,000.

Commissioner Osborne—That is final?

Mr. Betts—Those are final rate bases.

Commissioner Osborne—Those aren't historical values?

Mr. Betts—No, sir.

A. (Continuing.) This figure which I have given includes the physical property, together with the materials and supplies on hand carried by the company. I have taken this figure as an important element in the case; it seems to me that the actual cost must be an important element, inasmuch as a public utility must of necessity supply the service when it is required, and is not entirely a free agent as to the time when they spend the money. If the service is demanded during times of high prices it is necessary for the company to provide it, and it should be protected as to the actual investment made, always providing, of course, that the actual investment was made with reasonable, average business judgment. I have considered that, although the company may have items which are not as useful as other items which could be put in now, that is, some parts of the plant or pumping equipment may not be as good or as efficient as new equipment, but I think these were put in for the service of the public as required, and providing they were put in with reasonably good judgment, they should be included so long as they are serviceable.

Q. (By Commissioner Osborne.) Presumably these represented, at the time they were put in, the best state of the art at that time?

A. Yes, sir; I have taken that as a matter of the average state of the art. I don't think a company ought to be penalized because they made a few mistakes; every company does make mistakes, no question about that.

Q. Of course, they might select one or two machines which subsequent years might show were poorer.

A. Yes, and they also may select a supply which is not adequate a few years in the future, due to unusual growth, but if they use reasonable judgment on those things it seems to me those things should be protected.

Q. (By Mr. Hague.) Then it is your opinion, Mr. Fuller, that the company should be protected in its actual investment even though its plant, built by that invest-

ment, is not the most economical plant for the present conditions?

A. Yes, sir, I think that is true.

Q. (By Commissioner Osborne.) Then the other conditions would mean the scrapping of a large part of the machinery every time a new machine came out, wouldn't it, some improved machine?

A. That would be true if the scrapping of the machinery could be justified on the basis of paying not only the operating expenses but the new installation cost. Of course, that sometimes occurs; occurs very frequently in manufacturing.

Q. If the saving which is brought about by installing new machinery is great enough to overcome the cost of its installation, is the capital investment necessary?

A. Yes, sir. That, of course, is the reason why a depreciation reserve should be put away, and when a piece of machiery becomes old and it has earned for the company, served a reasonable length of time so that the depreciation reserve which would have been put away covers it, then the piece of machinery cannot be included in the valuation.

Q. I understood you to say that this company did not have an edequate depreciation reserve, in your judgment; is that correct?

A. No, sir, I do not think it has, that is, the amount carried on their books and reported to the Commission does not represent the total depreciation of this property, in my judgment.

Q. Is that due to the fact that they haven't earned it?

A. No, sir; there is a large surplus carried by the company, but not in the way of a depreciation reserve.

Q. They don't carry it in that account?

A. No, sir, except in the amount which I have already stated.

Q. (By Mr. Hague.) Mr. Fuller, will you take up the second element now?

A. I made an estimate of the cost of reproducing the property on the basis of the cost for the average ten

years before the war, that is, from 1907 to 1916, for all property built during that period or prior to that period. I then added to that the actual cost as carried by the company on its books for property built since that time. This represents something approximating the book value of what should be carried as actual cost, except that it takes into account for the older properties the general trend of prices, that is, prices over a long period of years have increased—which is true of some items—and by this reproduction method it takes into account that general trend. This method, therefore, serves as a check on the book value, with the inclusion of the element of this general trend of prices.

Q. Will you state the amount of the cost of reproduction that you estimated on this basis and how it compares with the actual cost as shown on the books, with the modifications which you have already indicated?

A. The total cost of reproduction of the property put in prior to 1919, as I have taken this date from the time Mr. Hill completed his appraisal up to 1918, dividing the appraisal into the same parts as he has, the amount of that property, on the basis of cost to reproduce at pre-war prices was $2,149,696. This appraisal is made on the basis of the inventory as given by Mr. Hill, that is, he made no attempt to check the quantities of material. I took the inventory as he presented it and put prices on them which I thought were fair and reasonable prices on the pre-war basis for that property. This appraisal does, however, just as Mr. Hill's appraisal does, include the cost of buildings built in 1918 largely at the book cost, which is about the pre-war basis; so far as the fillers, coagulating basins and gas pumping equipment, this figure I have given includes 1918 prices instead of pre-war prices. I have added to this figure, for the work done during 1917 and 1918, which was on a higher level of prices than the pre-war prices, a sum of $40,000 to give the additional cost of reproducing those properties on the basis of the actual time they were built.

Q. (By Commissioner Osborne.) How much?

A. $40,000. That $40,000 is added to the cost of structures built in 1917 1918, exclusive of filters, coagulating basins and gas pumping equipment, which were already included in the actual cost.

Q. They were included in the actual cost because actual cost and reproduction cost are practically the same thing.

A. I was looking for the actual cost of structures since 1916, which I included because they had been set out clearly before; the other $40,000 is put in to bring out the remainder of the property built in the last two years.

Q. That is appreciation on account of the upward trend of prices at that time, the high trend?

A. That is true, yes.

Q. On the cost of reproduction at that time. Of course, if you had reproduced at that time you would expect to pay the prices current at that time.

A. Yes, sir. That makes a total of $2,190,000, in round numbers. Then I have added the structures built in 1919 and 1920 and I have taken for that the sum of $250,000, which is very close to what the company carries it at on the books, so far as I could ascertain from the reports to the Commission. This gives $2,440,000. I then deducted from this the depreciation which had accrued on this additional property built in 1918 and 1919 and also a slight allowance for the depreciation of $40,000 which I included, and also for certain property abandoned during the year 1919 and 1920, $15,000, leaving $2,425,000. This is the cost of reproducing the property on the basis which I have stated, less depreciation on all the structures with the exception of the land and rights of way. This is on the basis of the cost of reproduction of a ten-year average for 1916, for all structures built to and including the year 1916, and actual cost to the company of all structures built since 1916. I then added the sum of $325,000 which I have taken assuming it to be the real estate and rights of way, making a total

of $2,750,000 as the total cost of reproduction on the above basis, less depreciation.

Q. (By Mr. Hague.) Will you take up the third element now?

Commissioner Osborne—You asked him in your original question, I think, Mr. Hague, to compare that with the book value. What was your conclusion of the book value, Mr. Fuller?

Witness—The conclusion of the book value was approximately $2,500,000.

Commissioner Osborne—That was net.

Witness—That was net; yes, sir.

Commissioner Osborne—So that there was only $250,000 difference?

Witness—Yes, sir.

Q. Will you take up the third element, Mr. Fuller?

Mr. Wherry—Before you do that, may I ask you one question.

Q. (By Mr. Wherry.) In this reproduction value did you make the same deductions of property that you did from the books, abandoned property, $100,000, to bring those values down?

A. No, sir; I made no deductions for that, because I only valued the existing property.

Q. (By Commissioner Osborne.) There wouldn't be any abandoned property in a reproduction value, would there?

A. That would be true. I only took the property existing to-day.

Q. (By Mr. Wherry.) But you did deduct those that Mr. Hill excludes as not used and useful?

A. Yes, sir; I deducted those items.

Q. And how about your depreciation, did you take your depreciation at the same figure, this $346,000?

A. I think perhaps this exhibit will show those things (producing paper).

Q. I haven't seen them. That figure, $2,190,000 is less depreciation?

Commissioner Osborne—What is that?

Mr. Wherry—That $2,190,000, that is less depreciation.

Commissioner Osborne—No.

Mr. Wherry—Well, he deducts something for his original depreciation. I think he has deducted depreciation of two items.

Witness—May I explain that?

Mr. Wherry—Yes.

Witness—That $2,100,000—stating it in round figures—

Commissioner Osborne—$2,100,000? I don't get anything approximating $2,100,000.

Mr. Wherry—$2,190,000.

Commissioner Osborne—He gets a reproduction value up to 1919 of $2,149,000, plus increase due to the war, $40,000, making $2,189,000.

Mr. Wherry—Is that figure that you just mentioned, that increase during the war, $40,000, is that what that is?

Witness—For the period during 1917 and 1918.

Commissioner Osborne—That is due to war prices; that is appreciation due to war prices.

Mr. Wherry—Appreciation of just the additions that were made that year.

Witness—Including all property built up to 1918, and that was estimated on the cost of reproduction at pre-war basis. Some of that property built during the years 1917 1918 I have increased the amount by $40,000 to cover the additional cost of building that property during those two years.

Q. (By Mr. Hague.) Simply the additional cost of the property actually installed during those years?

A. Yes, sir.

Q. Not the appreciation of the entire property during that time.

A. The other figures I have stated were original figures representing the cost of reproduction, less depreciation, up to the present time.

Q. (By Mr. Wherry.) Is it $2,750,000 for the estimate, less depreciation?

A. If that is the right figure; yes, sir; I don't seem to find it here.

Q. (By Commissioner Osborne.) That is what you said before. You mean on his reproduction value?

Mr. Wherry—Yes.

A. Yes, sir.

Commissioner Osborne—$2,750,000 that is the conclusion you reached.

Mr. Betts—That includes all the properties?

Witness—Includes all the properties, yes, sir.

Mr. Wherry—Does that include Watchung?

Witness—That includes Watchung.

Commissioner Osborne—Colonel, did you find Mr. Hill's various estimates? You were looking for them, I think.

Mr. Wherry—Mr. Hill's cost is $2,981,000.

Commissioner Osborne—Reproduction cost, you mean?

Mr. Wherry—No, the actual cost from the books.

Commissioner Osborne—$2,900,000?

Mr. Wherry—Yes. He didn't deduct anything for the abandoned property, that $100,000 item; he was simply getting that actual investment from the books.

Q. (By Mr. Hague.) What is this tabulation, Mr. Fuller, that I hand you?

A. I have here a tabulation of the summary of the appraisal of the Elizabethtown Water Company of the property installed prior to 1918, as contained in the inventory of Mr. Hill.

Q. What does that contain?

A. It contains five sheets; the first sheet shows the Elizabethtown Water Company, shows the cost of reproduction, depreciation, allowance for overheads, the accrued depreciation, and the cost of reproduction, less depreciation, for the several accounts which are carried

by the company. I may say that those accounts are taken on the same basis as Mr. Hill gave them in his appraisal.

Q. These were made up by you?

A. They were, yes, sir. The second sheet shows the same data for the Piscataway Company; the third sheet for the Raritan Township Company, and the fourth sheet for the Watchung Company.

Q. Where were these figures obtained, Mr. Fuller, that go into the making up of this statement?

A. These were taken from a more detailed appraisal, which I also have here.

Commissioner Osborne—Do you want to offer this in evidence?

Mr. Hague—Yes.

Commissioner Osborne—You better have it marked then.

Witness—The fifth sheet of this exhibit represents the summation of the four different companies into one sheet.

Commissioner Osborne—That is sheet E, entitled "Combined Appraisal"?

Witness—Yes, sir.

Commissioner Osborne—The five sheets will be marked as one exhibit.

(Five sheets — appraisals — Elizabethtown Water Company, Piscataway Water Company, Raritan Township Water Company, Watchung Water Company, and Combined Appraisal of Elizabethtown Water Company, and subsidiary companies, received and marked *Exhibit R-4.*)

Mr. Wherry—May I have two copies of it?

Mr. Hague—We will make two additional copies and send one to the Board and one to Mr. Wherry.

Commissioner Osborne—The Board has two copies now; we won't need any more.

Mr. Wherry—You referred to certain detailed statements that were embodied in this report.

Q. (By Mr. Hague.) What is this tabulation that I show you, Mr. Fuller?

A. This is the details of the appraisal, the summary of which is shown on *Exhibit R-4*.

Q. (By Commissioner Osborne.) Made by you?

A. Yes, sir,

Q. From Mr. Hill's inventory, upon which you have placed your own prices?

A. Inventory of the property, yes, sir.

Q. Upon which you have placed your own unit prices?

A. That is true, yes, sir.

Mr. Hague—I offer that in evidence.

Commissioner Osborne—I suppose there is no objection to it.

Mr. Wherry—No objection.

(Statement—details of cost of reproduction, pre-war basis of prices, received and marked *Exhibit R-5*.)

Witness—I may say in this case that Mr. Hill's inventory of the last item was changed to the extent of excluding the materials and supplies held by the company for construction purposes; it includes, however, the stock for repair purposes and coal on hand—

Q. (By Commissioner Osborne.) Why did you make that change?

A. Because the construction material was included in the cost of reproduction and an allowance is made for the interest during construction; therefore, if you include all of that in the construction of the company, it is not proper to include it in the appraisal; it is part of the contractor's equipment. The contractor doing the job would take care of the interest charge, and it is not proper if you include the interest for the work actually being done.

Q. (By Mr. Hague.) Will you take up the third element?

A. I have then taken up and considered the effect on the value of the present conditions, so far as prices are

concerned. In doing this, I have first made an estimate of the probable cost of reproducing the identical structures which this company is now using, or these companies are now using, using again Mr. Hill's inventory as to the quantities and extent of the property. In making up this estimate I have taken into consideration—

Q. Just a second, Mr. Fuller; we will take these up in their order. I have asked you to take up the third element.

Commissioner Osborne—Indicate what it is.

Q. That is the outstanding stock, bonds and loans of the company.

A. Yes, sir. I have taken into account the amount of the outstanding stocks and bonds and other indebtedness of the companies as an indication of the amount of capital which has been put into the business. I then considered how much return would be necessary in order to get interest on these bonds and other outstanding indebtedness and pay dividends on the stock. Taking the bonds and the outstanding indebtedness of all the companies—that is, I have included not only the amount of money invested by the stockholders and bondholders of the Elizabethtown Company, but also the amount of money which the stockholders of this company have put into the other companies in the way of loans to those companies, and I have considered that they are entitled to interest on this amount.

Q. Will you state the result of your computation with regard to the stocks and bonds and loans of the company?

A. The total amount of stocks and bonds and other indebtedness of the companies I have taken as follows: Elizabethtown Company, a bond issue of $500,000; outstanding stock of $981,520; and other indebtedness in the way of floating indebtedness, $165,000. Piscataway Company, bond issue of $270,000; stocks, $11,400; and other indebtedness, which I think is largely, if not entirely, to the Elizabethtown Company of $163,722. Raritan Township Company, $80,000 in

bonds; $12,400 in stock; and other indebtedness, $50,-552, largely to the Elizabethtown Company. Watchung Company, $125,000 of bonds; $75,000 of stock. This gives a total bond issue for all the companies combined of $875,000, and a stock issue of $1,080,320, and other outstanding indebtedness of $379,275, making a total of $2,334,594. The interest on these bonds, taking the interest on the Elizabethtown issue of six per cent.—

Q. (By Mr. Wherry.) Would you give me those last figures again, please? You say total stock, bonds, and other indebtedness—

Commissioner Osborne—The detail of that, yes.

A. Bonds, $875,000.

Q. (By Commissioner Osborne.) That is of all the companies?

A. All the companies, yes. Stocks, $1,080,320; other indebtedness, $379,274; total, $2,334,594. The interest on these bonds, taking the Elizabethtown Company bonds on the basis of six per cent. and the other companies on the basis of five per cent., amount to $53,-750 per annum. Assuming that seven per cent. should be paid on the loans to the companies, that is, the loans, from the Elizabethtown Company to the other companies, and money borrowed by the Elizabethtown Company itself, this would amount to $26,550.

Q. Why do you assume that those loans should be at seven per cent. from one of these companies to the other?

A. I have taken that on the basis that they might be entitled to what they could get that money for from other sources.

Q. You mean, if they borrowed that money elsewhere they would have to pay seven per cent. for it?

A. I took it more on the matter of a fair return to them.

Q. To the Elizabethtown Company?

A. To the Elizabethtown Company. Part of it might be bonds and part stocks; it is money put into the plant.

Q. Yes, but I assume those stocks have never earned such a return?

A. It has earned it.

Q. It has earned seven per cent.?

A. The stock dividends have been recently ten per cent.

Mr. Wherry—Five per cent. a half year.

Commissioner Osborne—These are semi-annuals, I see.

Witness—I have then taken as a basis of this comparison a nine per cent. dividend on the stocks of all the companies, which would amount to $97,210, a total of $177,510.

Q. (By Commissioner Osborne.) Why do you assume a nine per cent. dividend on the stocks of all the companies when prior to 1910 the Elizabethtown didn't earn anything like that and the other companies apparently never earned anything?

A. Prior to 1910—

Q. They began to pay their ten per cent. dividend in 1911; prior to that it was four, and then eight, and then six.

A. Yes, sir.

Q. And the other companies, nothing.

A. I have taken into account here that the money represented as put into these companies don't represent the full value of the property and it did not seem to me to be unreasonable that a nine per cent. payment on all of those stocks should be made.

Q. You have concluded, as one of the reasons for this allowance, that the stocks and bonds issued do not reflect the real value of the property?

A. Yes, sir, they are less than the real value of the property; I think that is true.

Q. I just wanted it to appear why you did do that.

A. May I qualify that and say that they are less than I think should be included as a rate base.

Q. I notice that taking two of your bases the bonds, stocks and other indebtedness amount to considerably less than either the book value or the reproduction value.

A. Yes, sir; this amount I have considered as the amount which was needed over and above the expenses, reasonable depreciation allowance and taxes in order to take care of interest and dividends for this company.

Q. Well, I only got your interest at five and six per cent., $53,750 on the bonds.

A. The other item was $26,550.

Q. $26,550 on the stock?

A. No, $26,550 is the seven per cent. on the other indebtedness.

Q. Oh, yes. And what was the figure on the stock?

A. $97,210, making a total of $177,510.

Q. That is what they have got to earn to pay those charges?

A. Yes, sir. This amount of stocks and bonds and other indebtedness is, of course, in excess of the amount which has been put in by the investors of the Elizabethtown Company, because they have unquestionably a large surplus which has been built up from the results of the operation of this company.

Q. (By Mr. Hague.) If the amount of stock and bonds issued equalled the value of the cost of reproducing this plant would you still advocate a rate of return which would permit the payment of seven per cent. on the bonds and nine per cent. on the stock?

A. No, sir.

Q. Will you take up the fourth item, the influence of the present prices and the inflated prices which have existed in the past few years on the value of this property?

A. I have considered the effect upon the value of the present conditions, so far as increased prices are concerned. In doing this I have made up an estimate of the probable cost of reproducing the identical structures now used by the Elizabethtown Water Company and its affiliated companies.

Q. (By Commissioner Osborne.) As of what date?

A. As of the present time. In making up this estimate I have taken into consideration the increased cost of materials and labor. An estimate of this sort is a very difficult one to make at the present time; at the present time conditions are changing constantly, business is depressed, we are in the midst of a serious business depression; it is true that labor prices have not as yet come down to a basis where construction can be done as cheaply as might be expected on the basis of the general deflation in other prices. There is nothing new about this situation. Labor prices always go slower in their changes than other prices, particularly wholesale prices; that is clearly shown by the Civil War conditions and it is shown by all changing conditions; labor lags, but ultimately comes down. To my mind there is no other possible way except for it to come down. On the other hand, the labor conditions are much more favorable at the present time than is reflected in the prices paid labor. There is a surplus of labor, particularly of common labor, in the greater part of the country and the efficiency of this labor is very much greater than it has been for a good many years.

Q. Due to competition?

A. Due to competition, due to the weeding out of the inefficient men and the retaining of men who will work. The men know it and the results are very clear. For water works construction the cost of cast-iron pipe is still higher, that is, at a higher percentage above its pre-war level than other commodities, that is, fundamental commodities. This is in part due to freight rates and perhaps in part due to better control over the market. There is a similar lack of adjustment in the deflation of prices. This again is nothing extraordinary; it has occurred after every disturbed condition. A study of the conditions after the Civil War shows the prices of various commodities went up and down; some would go down very much more rapidly than others, but there was a gradual coming together of the various curves,

that is, the difference in the rate of deflation as the years went along became less and less.

Q. In these periods of readjustment there is very little logical relation in the curves until the readjustment period has settled down to normal?

A. The relation is very hard to find; yes, sir; there is, of course, a reason for this irregularity of deflation.

Q. That you find in the different conditions surrounding the different industries.

A. Yes, sir; there may be a different reason for each one. I have here a curve, or a series of curves, gotten out by Dwight P. Robinson, plotted from the United States Bureau of Labor Statistics, which perhaps illustrates the irregularities of the increase and decrease in prices. This is a plotting of the prices on nine different materials and also the average of all commodities.

Q. (By Mr. Hague.) Have you copies of that, Mr. Fuller?

A. I have this copy (indicating).

Q. Have you any other copies of it?

A. No, sir; I haven't any other copies.

Commissioner Osborne—Have you this data, Colonel?

Mr. Betts—We have all that data from which that is taken; we have made curves.

Commissioner Osborne—This is the only copy the witness has.

Mr. Betts—We have all those statistics of the United States Bureau of Labor; they have been plotted in various ways by different people.

Mr. Hague—Any objection to its being introduced, Mr. Wherry?

Commissioner Osborne—Those charts are all recognized and used by the different men. Any objection to it, Mr. Wherry?

Mr. Wherry—No, I have no objection to it. I would like to have the date of that Dwight Robinson reprint of the Government Bureau of Labor chart for 1913 to 1921, isn't it?

Witness—Yes, sir; about the middle of 1921.

Mr. Wherry—1913 to 1921.

Witness—At the bottom of this chart is—

Mr. Wherry—It only covers nine commodities, doesn't it, Mr. Fuller?

Q. (By Commissioner Osborne.) Does it cover commodities that are peculiar to the water works industry?

A. It gives lumber, building materials, metals and metal products—those two are closely allied.

Q. (By Mr. Wherry.) What are the others? There are so many of these different charts that without a copy of it you couldn't tell what it was.

A. This is farm products, metal and metal products, food, and so forth.

Q. (By Commissioner Osborne.) Are those different products distinguished? Do they each have their own curve?

A. Yes, sir.

Q. So that you could pick out the ones relating to this inquiry?

A. Yes, sir. At the bottom of this chart—

Mr. Hague—Do you want the other items, Mr. Wherry?

Commissioner Osborne—Well, it speaks for itself.

Mr. Wherry—I just wanted to identify the chart.

Mr. Hague—I am going to offer it in evidence and ask that it be marked.

(Price chart, Dwight P. Robinson & Company, received and marked *Exhibit R-6.*)

Q. (By Mr. Hague.) Will you explain what it shows?

A. It shows the relation of these different items in respect to the peak prices, that is, the reductions from the peak prices of all these nine different commodities and the general average of them.

Q. (By Mr. Wherry.) Is that part of the Government chart or is that the Dwight Robinson chart?

Commissioner Osborne—It is his compilation from the Government chart, I understand. Is that right?

Witness—Yes, sir.

Mr. Wherry—I don't suppose that the latter part is admissible under the general rule. I don't have any objection to it, however.

Commissioner Osborne—Well, we would admit any recognized trade paper. If this is a recognized trade issue it will be admitted as such.

Mr. Wherry—All right. I really have no objection to it, except that it isn't the Government's; it is somebody else's.

Commissioner Osborne—No, it don't pretend to be the Government's.

Q. (By Mr. Hague.) Now, is there anything further you care to explain on that chart, Mr. Fuller, what it shows?

A. Well, at the bottom also is shown the increases from 1913 to the peaks of these several different items and then a further diagram which shows the reductions from the average of the various peaks; that is, they have taken the average peak of all of the items and shown what the reduction has been from that average peak, which rather smooths out the curve represented in the first of these charts.

Commissioner Osborne—If you have finished with this chart I think we will take an adjournment.

(Recess from one to two o'clock.)

AFTER RECESS.

Weston E. Fuller, resumes the stand.

Direct examination, by Hr. Hague. (Continued.)

Q. Did you finish item four, Mr. Fuller.

A. Some materials have fallen to the pre-war prices and some of them below that at the present time; other materials have fallen part of the distance, a large per-

centage of their increase, and some have fallen comparatively little. At the present time there is a slackening up of construction work all over the country; manufacturers are not building plants on account of the lessening purchasing power. This perhaps has an effect on the purchasing power of the farmers and also on the people who are not making as much money as they used to. There certainly is not the same power to absorb goods as there used to be in this country. Prices now being quoted do not represent the actual prices for which large construction work can now be done for.

Q. (By Commissioner Osborne.) You mean to say it can be done for less than the prices which are now quoted?

A. Can be done for less, yes. The quoted prices are prices on which small quantities of materials are sold, but in large quantities, reductions from these prices are obtained.

As an illustration of that, the City of Syracuse called for bids on thirty-six inch cast-iron pipe line; the price of cast-iron pipe obtained, for 6,200 tons delivered at Syracuse, was 35.44. This was the foreign foundries' price; the United States cast-iron pipe price was a few dollars more than that. The price of laying this pipe—

Q. (By Mr. Hague.) When was that, Mr. Fuller?

A. This was within two weeks; I forget the exact date; this was the fifth of this month, the bids were opened. The price of laying the pipes complete, cast-iron pipe, was 10.74 per foot, which included rock excavation of a considerable amount, probably fifteen per cent., and all the gates, structures, gate-houses and blow-offs and cross-overs.

Another illustration of it is the cost of building water towers; the price obtained in Florida on a job we were connected with a short time ago was practically a pre-war price for a half-million gallons steel water tower. An illustration of the cost of laying pipe can be obtained from many companies. The men are more efficient and they get their work done for less than would be expected

from the quoted prices of material and the union scale of labor. These manufacturers and contractors are anxious to get large construction work to keep their plants and their forces together and to cover their overheads.

There is also, I think, a tendency to perhaps discount to some extent deflation in prices, particularly of labor, and where the work is to a large extent by common labor the price is lower than you would expect. The price for labor varies greatly in different parts of the country; there are places where the union scale is being maintained very strictly, but in other sections of the country, particularly where there is a good deal of manufacturing going on, or has been going on, labor prices have dropped very greatly.

I have estimated the cost of reproduction of these works on two different bases; first, cost of reproduction of the identical structures, assuming by that estimate that such structures would be reproduced. This I do not think represents anything which has any great effect upon the value of the property, because it is perfectly clear that nobody would now reproduce those existing structures to serve Elizabeth and other towns with water. There are cheaper and better ways of doing it, and if present prices are to be considered, in my opinion, present conditions as to the growth of the territory and the existing conditions should be given full effect.

The character of the water served from the Elizabeth River is not of the highest and the population in that district is more than it should be on a watershed serving a public supply, and for other reasons, if these municipalities were to be served at the present time quite a different works would be put in, if good judgment was used.

The character and efficiency of the machinery which is being used is not what could be now reproduced; therefore, I have taken as the basis of present prices more the cost of reproducing the service to these municipalities than I have of reproducing the actual existing

structures. It is necessary to take in not only the cost of these structures, but the relative cost of operation of another plant which could now be built to give the same or equivalent service. My estimate of the cost of reproduction of the identical structures, using the quantities contained in Mr. Hill's inventory, is as follows:

For works built prior to 1919, as given in his inventory, $3,380,000; for works built during 1919 and 1920, $185,000; a total of $3,565,000; from which I have deducted for abandoned property in 1920 a round sum of $15,000; leaving $3,550,000, exclusive of land or rights of way; adding to the $325,000 for land and rights of way gives $3,975,000, as the estimated cost of reproduction, less depreciation, of the identical structures.

I have then considered the supply works of the company independently and have made an estimate of the value of these works, including the land, based on what a similar quantity of water could be furnished for from another source. I have taken as the source in this case—

Mr. Wherry—I object to this line of testimony on the ground that under all the decisions the matter of valuing a property by assuming the value for an ideal plant has been outruled as not a proper method of appraisement.

Q. (By Commissioner Osborne.) Is that what you started to do?

A. I am making an estimate of the cost of reproducing the service rendered by the company under present existing conditions, taking advantage of the changed conditions that have occurred and giving to the company the advantage of the increased prices at the present time.

Commissioner Osborne—Have you any cases on that?

Mr. Wherry—The earliest case where it is given consideration, the company wanted to put

in evidence of the cost of an ideal plant to give equivalent service and they were ruled out, and ever since then that precedent has been followed, as being too speculative.

Commissioner Osborne—Do you want to be heard on that?

Mr. Hague—It isn't alone the reproduction of an ideal plant, as I understand it, but here is an additional water supply which is contemplated being acquired and put into operation by the company and a considerable amount of money has been expended upon that additional supply; when that supply is obtained there will be a sufficient supply to meet the requirements of the City of Elizabeth and the other municipalities served by these affiliated companies. If it wasn't for the obsolete plant of the Elizabethtown Company and the highly expensive method of pumping water at the Hummock and Springfield stations there would be no need of those whatsoever, and it would surely be unfair to base a valuation for Elizabethtown, considering two sources of supply, and to strike a rate base on a valuation placed on both properties.

Commissioner Osborne—I will take the testimony until I have had an opportunity of looking at any authorities you may want to submit.

Mr. Wherry—That is, take the testimony subject to my objection?

Commissioner Osborne—Yes.

Witness—I have taken as the source of such a supply the junction of the Raritan and Millstone Rivers and have considered that all the water carried by these companies would be obtained from that source. The cost of securing water from that source I have estimated as follows—

Mr. Wherry—May I just interpolate here: I would just like to get the effect of it. There is a distinction in the case; if the witness is going

to outline a suggested improvement or a plan of service—

Commission Osborne—It is a part of your case, isn't it?

Mr. Wherry—We would be glad to hear what he has to say on that and then estimate as to how the present plant would fit into it, but if he is going to construct a hypothetical plant to be substituted on the same service as this plant—

Commissioner Osborne—The same inefficient service that this plant is performing.

Mr. Wherry—Well, whatever service it is performing. As a measure of its value, that isn't admissible.

Commissioner Osborne—What are you going to do, anticipate the improvements in the plant necessary to give proper service?

Witness—To a certain extent, yes, sir. To another extent I have taken as a basis of the value at the present time what water could be served in those municipalities for if a plant was to be built at the present time.

Mr. Wherry—This last thing, I think, is not admissible.

Commissioner Osborne—He says he is going to indicate what water could be served, not what water is being served.

Mr. Wherry—By some ideal plant taking the place of this plant?

Commissioner Osborne—Scrapping this plant entirely or utilizing any part of it?

Witness—Scrapping such portions of it as are not necessary.

Mr. Wherry—That would not have any relation to this distribution system.

Commissioner Osborne—I will take it and see whether it is proper or not. We will get it in the record. If we pass it now we probably won't get an opportunity to go back to it. It can go

in subject to a motion by you to strike out any part of it.

Mr. Wherry—All right; it is in the brief anyway. I just wanted to call your attention to it.

A. (Continuing.) The total amount of water used by all of these companies, or furnished by all of these companies, is about 7,300,000,000 gallons per annum. to their consumers outside of the Elizabethtown Company together with the water used by the Watchung, Piscataway and Raritan Township Companies, as served to their consumers outside of the Elizabethtown Company itself. This quantity of water in 1920, about 2,200,000,000 gallons, was purchased from other companies or cities, that is, exclusive of the affiliated companies; 5,000,000, in round figures, were obtained from the Elizabethtown sources, together with the Piscataway and Watchung sources. The cost to get water from the Raritan River and the Millstone River, assuming that 20,000,000 gallons daily supply was required—which is about the amount used by these companies—would be about $71 per million gallons of water furnished. This is on the basis of the cost of the complete works to furnish this amount of water, basing the estimate on a substantial high class works, $4,075,000.

A seven per cent. return on this would amount to $285,250; taxes, as estimated, $51,000; allowance for depreciation, $32,000; operating expenses, $150,000, making $518,250 per annum. The amount of water to be obtained in this way would be 7,300,000,000 gallons, substantially $71 per million gallons.

Q. (By Mr. Wherry.) That is per year—$71 per year?

A. Per million gallons.

Q. Per million gallons per year?

A. Per year or per day; it doesn't make any difference; per million gallons served.

Q. You said the total production would be 7,700,000,000 gallons per year?

A. 7,300,000,000 gallons per year, and the cost of obtaining it would be at the rate of $71 per million gallons.

Q. And you give a plant cost of what?

A. $4,075,000, that plant being sufficient to supply the entire water used by all four of the companies without purchasing any water from any outside sources. With the present sources the cost to operate the supply system of the works, together with a small amount for the operation of a transmission system, is about $175,000 per annum.

Q. (By Commissioner Osborne.) What is $175,000 per annum?

A. $175,000 per annum is the present cost of operating the present supply works, including rather a small allowance for the transmission line which is included in the evidence. The cost to get the 5,000,000,000 gallons from the new source would be five thousand times $71, that is, the $71 per million gallons; 5,000,000,000 gallons of water would cost $355,000 per annum. Deducting the $175,000 of operating costs of the present works from the $355,000, cost of water from the new supply, leaves $180,000 as the amount, the annual amount which can be allowed for capital charges, taxes, depreciation on the existing system.

Depreciation on the existing supply works would be about $29,000 per annum; this, taken from the $180,000, leaves $151,000, which may be applied to taxes and return on the capital from the present supply works. $151,000 divided by eight and a quarter, using a seven per cent. return and 1.25 per cent. taxes, without the present rate, would give as the value of the present works on that basis $1,830,000. Therefore, on the basis of what the water could be furnished to the present consumers for, the present supply works might be found, under present prices and under present conditions of operation, to be worth $1,830,000.

Mr. Wherry—I move to strike that testimony out as being entirely improper as a measure of

value of the plant under the procedure. He hasn't give anything like an estimate of what the company could do to improve the present service and the cost of that; he has simply built up some sort of hypothetical plant here as a test of value.

Commissioner Osborne—Has he finished that line of testimony? I won't strike it out until he has finished.

A. (Continuing.) This is one course which the Company could follow, or which any other company or municipality could furnish water for themselves. With the existing supply works of the company and the thirty-six-inch line now installed a somewhat different arrangement would be made; that is, they would take advantage of the existing thirty-six-inch cast-iron main, which is not large enough to take the entire supply from the new works. This would mean a different condition and it is probable that under the existing conditions it would be better to put in a smaller supply system at the Raritan River and utilize the less expensive of the present supply works for the time being. That, however, would depend entirely upon what was allowed for land and the cost and value of the present supply works. If these are put in at a high figure it would then be clearly better and cheaper to replace them with an entirely new supply. This new supply would furnish better pressure, would be in better condition as to the future, and would in all respects be a better supply for the municipalities than the existing one. I have considered, therefore, that under the existing conditions that these supply works of the company are not worth more than $1,830,000.

To get the total cost of reproduction under present conditions and prices I then added to this value of the supply works the cost of reproducing, less the depreciation, the distribution mains, meters, services and other structures which are not connected with the supply works. This, on the basis of reproduction under present prices, amounts to $1,389,000, giving a total of

$3,219,000 as the cost to replace the service which the company is now giving on the basis of present prices and with a better supply. To this must be added an allowance for the property put in since 1918, that is, for all the property which is not included in the supply works. This, on the basis of present prices, I computed to be about $160,000, giving a total of $3,379,000 as the cost of reproduction, less depreciation, of the service of the companies, under present conditions and prices. From that I have deducted a small amount for the depreciation of the property put in in 1919 and 1920, leaving $3,376,000.

I have considered that such a value for these works is not in excess of its true value, because a better supply from a source which can be increased economically, with works of a higher character, could be put in to serve the communities at that price or at a price equivalent to it when the cost of operation and the capital charges are taken into account.

Q. (By Mr. Hague.) Will you take up the fifth element—

Mr. Wherry—May I renew my motion to strike out, on the same grounds, that it is entirely of too speculative a nature.

Commissioner Osborne—I will reserve decision on that matter until I refer to the authorities.

Q. Will you take up the fifth element, Mr. Fuller, that is, the earnings of the company in the past. State how you considered that element.

A. I have taken the earnings of the company since 1912, as reported to this Commission—

Mr. Betts—May I ask a question? There seems to be a little confusion.

Q. (By Mr. Betts.) After you have built this new plant at the Raritan River, and taking into account so much of the existing system as would be included in the base, the total value left then is only $3,776,000?

A. $3,376,000.

Q. Inclusive of the money that will have been spent at the Raritan River?

A. The equivalent value. In other words, if the Raritan River supply is put in, the expense of operating the plant from that source would be very much less than the expense of operating the present five different sources and the cost of buying water from these other municipalities and companies, the saving in the operating expenses offset the capital charges on the $4,000,000 to the extent that it leaves an equivalent proposition of $3,376,000 for the present works on the basis of present prices.

Q. For the present works, not including the Raritan River?

A. No, for the present works.

Q. (By Mr. Wherry.) In addition to that you would have $4,000,000 to go into new structures, so your total plant would be $7,854,000, would it not?

A. No, sir.

Q. (By Mr. Betts.) What would be the total, adding in the Raritan River?

A. Well, the answer to that is that the land engaged in the supply of the present structures and the present supply works would in that case not be necessary. You would have the entire supply from another source and my contention is that under present conditions and present prices there is no justification for increasing the rate beyond what the municipalities can, by another way, get their water service for, when that amount is in excess of the actual investment that this company has made in the service development. I think that is a limited amount the company can claim.

Q. (By Commissioner Osborne.) That is the extent of the value of the service?

A. Yes, sir.

Q. The measure of it?

A. It is. In all other lines of manufacturing and business you can't get more for a thing than you could get it from some other source for, unless it is a better article.

If you are going to take into account the ordinary business conditions which go into manufacturing and take into account present prices, it seems to me you have got to take into account competition, or what would be competition if it were not regulated.

Mr. Wherry—I move to strike out that last answer as being not responsive to the question. The question was what would be the total value of the plant when he got through his additions.

Commissioner Osborne—Who asked the question?

Stenographer—Colonel Betts.

Commissioner Osborne—Unless the question was asked by you, you cannot move to strike it out.

Mr. Wherry—Maybe that is so; I thought that was an answer to my question.

Q. (By Mr. Wherry.) Now then, Mr. Fuller, can you tell me what the value of the plant would be when you get through this additional development?

A. I have not testified that I would add present development used and useful for water works purposes and new development also, because that would be giving you twice as much supply works as you need.

Q. (By Commissioner Osborne.) What you would do is sell what you wouldn't need and credit it upon your total expenditures?

A. Yes, sir; or I would not in that case build as large a works; I would utilize some of the other supply, and I have taken into consideration also the fact that these supply works are not only for the Elizabethtown, but also for Middlesex and the Plainfield-Union.

Q. How do you know that the City of Elizabeth could tap this source of supply?

A. The company, of course, has acquired the rights to do so for service in the City of Elizabeth.

Q. The Raritan River?

A. The Raritan River, to the extent of 20,000,000 gallons a day, as I understand it.

Q. Would that preclude the city from doing it?

A. I take it the city could obtain the same rights as the company could from the Conservation Commission; that is my judgment on that.

Q. Then you don't know anything about it; you are merely assuming that the city could get as much water as it needed from that source of supply, and on that hypothesis you build up this plant?

A. Yes, sir.

Mr. Hague—It is recognized that the supply is there of 50,000,000 gallons a day. Elizabethtown has permission now from the State Conservation Commission to take 20,000,000 gallons a day.

Commissioner Osborne—Are they taking it?

Mr. Hague—They have not as yet; that is what this thirty-six inch pipe line is going to be for.

Commissioner Osborne—They are preparing for it?

Mr. Hague—Our contention is that if they build that plant the supply to Elizabeth will be adequate from that point; then they can't ask for a return upon these other antiquated and highly expensive plants.

Commissioner Osborne—That is all right when the plant is in operation, but in the meantime—

Mr. Hague—That plant is being built with the idea of furnishing that supply, and if that isn't taken into account, then the main built is much larger than what they would need under present conditions.

Commissioner Osborne—Doesn't that merely resolve itself into this: You would have to determine the present rate under conditions as they now exist, and when this new condition exists then you have to readjust the rates.

Mr. Hague—Why should they include then the cost of this present supply which we are not

getting the benefit of, the properties and all that that goes into it, if we are not getting any benefit from it? Why should Elizabeth pay a rate on that now until it is furnished?

Commissioner Osborne—You mean on the real estate?

Mr. Hague—Real estate, reservoir sites, and pipe line.

Commissioner Osborne—You only get a rate on the property used and useful.

Mr. Hague—There is any quantity of it that has been put in by the company in this case that was not used.

Commissioner Osborne—I have no way of knowing that unless you indicate it in some way.

Mr. Hague—I thought that was brought out on cross examination.

Commissioner Osborne—Perhaps it was; the record will show it. Did you finish, gentlemen, on that point?

Mr. Wherry—I think I understand it as well as I ever will.

Witness—I think I started an answer.

(Beginning of witness' last answer read as follows: "I have taken the earnings of the company since 1912, as reported to this Commission—".)

A. (Continuing.) —and considered that, according to the reports to this Commission, that the Company had prior to 1912 put away a large surplus; that from 1912 to 1920, inclusive, the earnings of the company were sufficient to pay a ten per cent. dividend per annum on the stock of the Elizabethtown Company, after paying the bond interest, and so forth, as well as to greatly increase the surplus of the company. During that period the company was earning a high return on the money which was actually invested in the property; during that period the company was charging to its depreciation reserve account two per cent. per annum on the depre-

ciable property. This depreciation is in excess of that required to retire the property if it had been charged from the time the various items of property went into effect, into use. This depreciation has built up a total depreciation reserve during those eight or nine—nine or ten years which is not equivalent to the real depreciation on the property, but the rate during that period has been higher than would have been required if it had been charged throughout the history of the company. In other words, in 1912 there was a considerable amount of taxes on the property, but it was not set up on the books as depreciation reserve.

Q. (By Commissioner Osborne.) You think the rate is high enough to set up a proper depreciation reserve, but instead of setting it up they put it into their surplus account at the expense of the depreciation reserve; is that your theory?

A. Yes, sir. That surplus account exists and was not set up as depreciation reserve until 1912.

Q. Although they did earn it?

A. Although they did earn it, yes. During the years from 1912 to 1916 the company was earning large returns. During this time they were using their plant to its capacity and were buying water and were making a large amount of money in the business. Part of these profits were put into surplus and part paid out as dividends. In 1912 the surplus carried by the company was, I think, $670,000. It seems to be clear that this company has during its history earned a return, a fair return on its investment, and in addition thereto has put aside considerable surplus, and under these conditions there is no justification for the addition of anything for going value or for development costs in a rate making case.

Q. Why didn't you add anything for development cost?

A. Because if it cost the company anything during its early history when this was a small company, it has been more than made up by the consumers in the payments since that time.

Q. Reflected in the surplus?

A. Reflected in the surplus.

Q. And the other item of development cost?

A. Going value.

Q. Going value.

A. In my opinion, unless there has been a development cost there is no justification for adding going value in a rate case. Going value, os it is ordinarily considered, is the increased value due to it being a going business.

Q. If it is a going business run at a loss it hasn't much going value; if it is a going business earning a surplus I should think you might possibly say it had considerable going value.

A. Well, its going value on that basis would be its excess over earnings of money invested in the ordinary business, that is, if its dividends were greater than could be expected from some other source it might have a value on that basis more than its cost of reproduction.

Q. What do you consider going value?

A. I think there are a great many definitions of going value.

Q. As you use the term now when you say they are not entitled to have going value considered.

A. Going value, as originally defined, was the difference between the bare bones of the company, as it was just completed and built, and the value of the company after it had attached its business. Now, in a consideration of purchase and sale a company does have more than its reproduction cost, due to the fact it has that income to its credit and if that income is more than would be expected from an equavalent investment, why, it has a considerable going value which is more or less in the nature of good will, but to capitalize that in rate making seems to me to be rather a wrong principle because that is entirely dependent upon the rates themselves.

Q. In other words, the consumers, having created that, should not be taxed for it?

A. Should not be taxed for it, exactly.

Q. Should not be penalized for having created it?

A. If the consumers have already paid for the past development cost.

Q. And where there is a surplus, it indicates that the consumers have?

A. Yes, sir, provided there have been dividends.

Q. (By Mr. Hague.) Will you take up the sixth element that you have considered, that is, the effect of the value of the property of the uncertain present conditions and of the trend of prices which may be expected in the future.

A. At the present time prices are on the decline. The drop of prices from the peak was extremely rapid; there has been a slowing up in the reduction in prices in the last few months. The course of prices following this war has been very similar to the course of prices following other wars; as a matter of fact, prices have dropped very much more rapidly, although they continued for a somewhat longer period, the high prices, that afterwards dropped more rapidly than during other wars. After other disturbances of this sort there has been the same slowing up of prices; sometimes there has been a considerable increase in prices for a short period, followed, however, by another decline which has carried the prices down finally to or below pre-war levels. The length of time that it takes to get back to the pre-war level after wars, of course, depends not only on the amount of inflation of prices, but also on the internal conditions of the country, and a study of these periods shows that where countries have not materially suffered in their wealth, that the getting back to the normal level was more rapid than where there has been a loss of actual wealth, with the resulting depreciation of the currency. After this war there can be no question, of course, but what the American currency is of high value. The main reason for increased prices which will continue is the increased demand; this demand has ceased; at the present time there is, of course,

much less demand for commodities than there has been over a normal period.

A comparison with the prices after the Civil War is different from the prices after this war, because at that time this country did suffer great losses in its wealth and its currency was depreciated for a long period. It took longer after the Civil War to get back to a basis of lower prices than it has after this war up to the present time. For instance, after he Civil War, to get down to prices of general commodities that we get now, it took from three to four years longer than it has after this war.

I have here a plotting which shows the average of different commodities plotted on the same diagram, to the end of the war at a common ordinate, that is, the Civil War, the Napoleonic Wars and the World War, plotting the time of the end of the war at the same point and showing the increase and decrease of average prices for wholesale commodities. This illustrates, of course, the rapidity of the drop in prices after this war as compared to these other wars.

Q. (By Commissioner Osborne.) Have you a copy of that?

A. Yes, sir (producing copies).

Q. (By Mr. Hague.) Was this prepared by you, Mr. Fuller?

A. This was prepared by me from the data indicated on the diagram. The Napoleonic Wars here show the effect of prices of England, the Civil War of prices in America, as well as the World War. This shows that ultimately the prices came down to or below pre-war prices in the two preceding wars that I used. At the present time, after this war, prices have not as yet reached that level.

Q. (By Commissioner Osborne.) Are they still going down?

A. The prices have held pretty nearly constant for the last few months. And it will be noticed after the Civil War, for instance, there was a period where the prices

materially increased for some commodities and for other commodities held pretty nearly constant for a period of nearly a year, and there are ups and downs in those prices. This has been called by some writers the construction boom; in other words, the slowing up of certain lines of construction during the war, so that prices came down to some extent, bringing on rather a boom in that particular line of endeavor which may temporarily raise prices. It also is represented to some extent by the fact that some commodities sell very much more than others and that there is a rebound in those commodities which may equal, or even exceed, the decline in the other commodities. There is a general tendency to even up, equalize, at this time.

Mr. Hague—I offer this and ask it be marked.

(Plotting diagram showing average of prices of different commodities to the end of the war, received and marked *Exhibit R-7.*)

A. (Continuing.) I have also a pamphlet here issued by the Harvard University Committee on Economic Research which shows very clearly the relative amount of deflation in prices of a large number of commodities. This pamphlet shows plottings of the present ratio of prices to the 1913 prices for a large number of commodities, and it gives a table showing the number of different commodities which they have used in their index number, which are in different groups, that is, it shows one commodity, which I think is rubber, which has now fallen so that it is only twenty to twenty-nine per cent. of the pre-war prices. That, of course, is an exception. It shows other commodities which are between sixty and sixty-nine per cent. of pre-war prices.

Q. Those are both below?

A. Both below, yes.

Q. How about copper?

A. Copper is somewhat below; perhaps eighty-five.

Q. There are quite a few below.

A. There are fourteen of these forty-nine commodities which are now below pre-war prices; there are thirty of these forty-nine commodities which are

below the general average of present prices, showing that there are still a few which are very high and which are bringing up the average. This is shown very clearly on these diagrams. The general average of all of the commodities used by this Harvard Committee, I think, is thirty-three per cent. above pre-war prices. That is somewhat lower than Bradstreet's and some of the other indices used. There is also shown in this pamphlet the general trend of prices from 1898 to 1914, showing that there was at that time an upward trend of prices. This trend up and down of prices can, of course, be followed for a great many years back and it is this gradual upward trend which then falls off, but as a general thing there is a continuous upward trend in prices for many of the materials, but they are not uniform; some commodities are going up faster than others. Then there is a list in this other pamphlet showing a comparison of the wholesale commodities, of forty-nine commodities, in October, 1921, with prices for the year 1913.

Mr. Hague—I offer that in evidence.

(Pamphlet issued by Harvard University Committee on Economic Research, showing relative amount of deflation in prices of forty-nine commodities, received and marked *Exhibit R-8.*)

A. (Continuing.) I also have another pamphlet issued by the same committee, which shows the index in the volume of manufacturing.

Q. (By Mr. Hague.) Who is that gotten out by?

A. By the Harvard University Committee on Economic Research. This shows a great drop in the volume of manufacture put out by American factories since 1919, showing, of course, the fact that there is not the demand for the goods that there was in the boom period.

Mr. Hague—I will ask that that be marked.

(Pamphlet issued by Harvard University Committee on Economic Research, showing index in the volume of manufacture put out by American industries since 1919, received and marked *Exhibit R-9.*)

A. (Continuing.) Also a pamphlet which shows curves as to the amount of business, amount of speculation, amount of money, for this same period, showing how business has dropped in the last year and a half.

Mr. Hague—I askd that that be marked.

(Pamphlet showing curve as to amount of business, amount of speculation, amount of money, for period since 1919, received and marked *Exhibit R-10.*)

A. (Continuing.) Building materials have not dropped nearly as much as the general average of other commodities; building material and lumber on these diagrams are about fifty-seven or fifty-eight per cent. above the pre-war prices. That is really taking into account, as they do here, four basic materials, brick, glass, linseed oil and steel beams. These four commodities which they have used as the index in building materials have deflated in very different amounts. Brick, for instance, is over one hundred per cent. more than it was before pre-war prices, while steel beams are down to a very litle more than pre-war prices. It is this irregularity of deflation which is causing so much disturbance.

I have also a diagram which shows the fact that labor after the Civil War did not begin to go down until long after the commodities; in other words, the wages for labor did not begin to go down at the same time; the peak is represented with the commodity prices.

Q. Was this prepared by you?

A. Yes, sir.

Q. Have you other copies of it?

A. Yes, sir (producing copies). (Continuing.) Ultimately, however, the labor prices do decrease.

Q. (By Commissioner Osborne.) This shows the trend in wages and commodities from 1861 to 1867?

A. Yes, sir.

Mr. Hague—I will offer this in evidence and ask to have it marked. I will furnish additional copies.

Commissioner Osborne—Would you like to look at it?

Mr. Wherry—I would like to look at it, yes.

(Diagram showing decline in prices of labor and material from 1861 to 1867, received and marked *Exhibit R-11.*)

A. (Continuing.) Up to the present time the general average of labor throughout the country has been about twenty per cent., so that after this war the deflation in labor wages has started at an earlier time than it did after the Civil War. My conclusion, from the various data which I have examined, is that ultimately the prices will go down to or below pre-war prices and that they will hold for material and labor costs in general in the construction of water works plans.

Q. (By Mr. Hague.) Will you state how you have taken into consideration the seventh element, that is, the general conditions existing in business at the present time?

A. The present condition in business is one of depression; the companies which made large profits have during the past year or so failed to make anything like what they did during the time of high prices. It seems to me that if we are going to take public utilities on the basis of present prices and conditions that it must be upon a basis similar to that of other lines of business. If that is the case, why, there is no justification for large profits at the present time. This is not my idea of the proper way to fix rates, as I believe it is far better for everybody concerned that rates should be standardized as much as possible and that the return to the company should be as nearly uniform as may be feasible, but if this condition is to be taken into account, then I think we have got to consider the general condition throughout the country.

At the present time the ordinary manufacturer is finding that his prices at which he can sell goods have fallen greatly, and he is also finding thata his expenses for

labor are not going down to that extent; he is not getting profits and is trying to live through this period of depression.

Stocks and bonds of companies have, of course, gone down, particularly the stocks. Bonds have recently gone up very greatly and stocks have gone up to some extent, but as compared to the time when business was flourishing, when the boom was one, the value of stocks is very much lower. These stocks would be lower still except that it is anticipated that business will come back. If we take that condition of public utility companies, the present is a period when a high return on stocks should not be allowed, so if we are taking into consideration present conditions I cannot see the justification for a rate of return which would render a large return on the stocks of the company.

Q. (By Commissioner Osborne.) What do you consider a proper rate of return under present-day circumstances?

A. I think, with the interests of both the public and company in mind, we have put a seven per cent. return on water works companies.

Q. Is that on stocks or bonds?

A. That is on the value of the property. Now, the matter of issuing these stocks and bonds is a matter which, to some extent at least, is within the control of the company; they have the power, to a considerable extent, to determine how much stock and how much bonds; they have, to a considerable extent, the powers as to the time when the bond issues are to be put out; they determine whether they shall issue long term bonds or short term bonds, and if they are efficient and wise in putting out their bond issues they naturally will profit more than a company which is not efficient and wise in so doing.

Q. Do you think you can market securities on a seven per cent. basis?

A. I think you can market bonds on a seven per cent. basis.

Q. By that, I mean is that a sufficient return on the capital which may be necessary for the development of the business?

A. I think a company which is assured of a return which will pay seven per cent. on its property and which it is understood will continue, so long as reasonable judgment is used, to get that return, the market at the present time is a seven per cent. basis; yes, sir. The yield of public utility bonds has gone up very materially in the last few months. Now, in comparison with public utility bonds, if we take into consideration the value of the stocks of these same companies, we find that the security there is probably not all that the bond holders would like to have it. So what we have to compare is a company which has physical property worth much more than its issue of bonds. Such a company, if it is understood by the investors, certainly ought to be able to issue its bonds at a low rate, but if the utilities insist on putting the dark side forward, why it necessarily means that the investors are not as well disposed towards their property. A water company has a large amount of physical property; its property isn't going to be destroyed by fire, nor by any other ordinary cause; it is a safe investment and I think when investors realize it, public utilities like water works are going to be able to finance at a low rate. At the present time utility bonds—I have several lists of them—and they vary anywhere from a yield of less than six per cent. up to, in some cases, a very high yield where the security back of the principal of the bond is not good.

Q. (By Mr. Hague.) Taking into consideration all of the elements, have you formed an opinion as to the fair value of this property for the basis of rate making?

A. I have.

Q. Will you state what you consider a fair rate base to this company for the purpose of establishing rates?

Mr. Wherry—I object to that question on the ground that he is now asking for the present

value of that property for rate making purposes. He seems to be making a distinction here between a rate base—

Commissioner Osborne—What do you mean by "rate base," Mr. Hague? You mean the value of the property—

Mr. Hague—The value of the property for the purposes of placing a rate upon it as ascertained by Mr. Fuller from his investigation.

Commissioner Osborne—Then you want him to tell you what the fair value of the property is?

Mr. Hague—In his opinion, what the fair value of the property is for the purposes of a base rate.

Mr. Wherry—He is putting on that last qualification, which it seems to me is objectionable.

Commissioner Osborne—A great many of the engineers are very keen about putting that on; I have noticed that, especially with the companies' engineers, a valuation for rate-making purposes; they seem to think for some reason or other that that ought to be higher than any other valuation for any other purpose.

Mr. Wherry—I don't know what engineers you refer to when you say "a great many of the engineers," because my own theory is valuation is practically the same for all purposes.

Q. (By Commissioner Osborne.) Suppose you tell us whether or not, in fixing a valuation, it is distinguished in purpose, that is, fixing one valuation for rate-making purposes and another for the purpose of purchase and sale, or for any other purpose?

A. Yes, sir; I think there is a distinction. For instance, some portions of the property which would be included for purchase and sale would not be included for rate making, and some elements which might fairly be taken into consideration for rate making would not be taken into consideration for the purposes of purchase and sale.

Q. In other words, for purchase and sale there might be property not used and useful that could not be taken into consideration in a rate case?

A. Yes, sir.

Q. Eliminating such property, can you give us the value of the property used and useful to the public?

A. There are still some distinctions, if I may explain. I should say that for rate-making purposes some of these older properties which ought to be replaced, and which would for any purchaser compel him to spend a lot of money within a short time to replace them, might depreciate the value of that property for purchase and sale to a greater extent than it would for rate-making purposes. I think there is a distinction in that way and I have allowed in this rate base some of this property at a higher figure than I would advise anybody to pay for it.

Commissioner Osborne—Does the explanation of the witness meet your objection?

Mr. Wherry—I think it explains what he is going to testify to.

Q. (Commissioner Osborne.) Taking into consideration the distinctions indicated by you, can you give us the value of the property for rate-making purposes?

Mr. Wherry—It is quite evident that we are getting something perhaps different than the actual issue of the case.

Commissioner Osborne—No, we are getting the property used and useful, because he says in answer to the question now that he has eliminated property not used and useful which, however, might be an element in the purchase and sale, and is giving credit for property used and useful but which would depreciate the property for the purpose of purchase and sale. Is that right?

Witness—That is right; yes, sir. I should take as the fair value of the property for the purpose of fixing rates, basing this entirely on the inventory of the company, $3,000,000, and that is after taking into consideration the effect of the present prices and the fact that prices

may be expected to remain above the pre-war level for some little time in the future.

Q. (By Mr. Hague.) Have you examined the operating expenses—

Mr. Wherry—Just a minute, Mr. Hague, if you will excuse me. It isn't clear yet what he has valued; he said he took the company's inventory. Is that for all the plants? Is that for Watchung and Piscataway, or has he eliminated Watchung?

Witness—No, sir; that includes all four companies.

Q. (By Commissioner Osborne.) Taking the inventory of Mr. Hill?

A. Yes, sir.

Q. As a basis, putting in your own unit prices?

A. With the exception, as I have already explained, that I left out a portion of the construction material contained in materials and supplies.

Q. (By Mr. Hague.) Have you examined the operating expenses of this company as submitted by Mr. Mill in his *Exhibit 5*.

A. Yes, sir.

Q. What is the gross operating expense of the four companies, eliminating therefrom the amounts paid for water as between the companies, that is, eliminating all intercompany charges for water or for interest, giving only the operating expenses of these companies, including therefor all charges for water actually purchased from outside sources?

A. The total operating expenses of the four companies, including therein the amounts spent for water purchased by the Elizabethtown Company from other municipalities and from companies outside of the three affiliated companies, and including therein the interest on the loans to the Middlesex Company as a part of the cost of acquiring water from that company, are as follows: Water supply expenses: Water purchased, $130,833.63; for collection system expenses, $2,988.64; purification system expenses, $17,093.04; pumping sys-

tem expenses, $145,247.39; total for water supply expenses, $296,162.70. For repairs, several items, first, collection system, $2,337.47; purification system, $205.03; pumping system, $3,172.89; total repairs, $5,715.39 Total water supply expenses on repairs, being the sum of these other two items, $301,878. For distribution expenses, $21,617.21; repairs to distribution system, $11,874.25; total for the distribution system, repairs and expenses, $33,491. General and miscellaneous expenses, $64,434; total expenses for the four companies, $399,803.

Q. What have you fixed as a fair allowance for depreciation on the property on the basis of your rate base?

A. I have taken this on the basis of allowing first, the necessary sum to be put aside to create a sinking fund to retire the property; second, an allowance for the interest on that sinking fund. That is, the first amount is simply the annual sum which must go into the sinking fund if I am to create enough to retire the property; the second amount is the interest on the sinking fund as of that time, because the company has no other means of getting any return for the money tied up in the sinking fund. This is the so-called equal annual payment method. The effect of this method is to allow practically a return on the cost of the property, except that the amount of money which has been set aside as depreciation is put in on the basis of a lower rate of interest than the amount which is still being used by the company. I can illustrate that by taking a piece of property at $100,000. In the beginning, of course, it would be entitle to a full return which I have taken as seven per cent. on the full $100,000, and in addition thereto an amount which is put into the sinking fund would take care of the retirement of the property at the end of its life. At the end of the period—we will assume a forty-year period—at the end of thirty-nine years the value of this property would be very small and the method in that case would be to give a seven per cent. return on

this small value of the property, but to allow in addition thereto five per cent. on the accrued depreciation, which would be the difference between the value then allowed and the original $100,000, so that during that year the greater part of the property would be put in on a five per cent. basis, for the reason that the money had been returned to the company and had been used by the company in any way in which they saw fit and should be at a low rate of return.

Q. (By Commissioner Osborne.) Why any interest on that?

A. Because otherwise the company would get no return on this property at all, although they were compelled to keep it in the business.

Q. It is getting it in the sinking fund, isn't it?

A. The interest would have to go into the sinking fund in order to provide for the retirement of the original investment, so that they can't take it out.

Q. Well, the money in the sinking fund isn't lying idle. You are assuming that the money in the sinking fund is not earning anything?

A. I assume it is earning interest and building itself up so that it will eventually take care of the retirement of the property.

Q. Which must be met out of the sinking fund?

A. Yes, sir, and the sum of the total amount of the sinking fund payment, plus the interest, is just enough to take care of the total value, so if they didn't get interest on that, that money would not give them any return during that period. That is the difference between this method and the straight line method.

If the straight line method is used then the company should be given a value on the depreciated property, and in that method the sum total of all the annual depreciations, without interest, will amount to the value of the property, but in the sinking fund method, the sum total of all the annual payments, plus the interest accrued on those annual payments, creates a final fund, and this method is a matter of using the sinking fund

method of depreciation, but still giving the company a return on all they have in the business, and the advantage of this method is that it makes the rates uniform throughout, or very nearly uniform throughout the period of youth of the property, while the straight line method means a higher rate at the beginning of a new property, with a gradually decreasing rate as the property becomes old. The net result on most water works properties is not very different; that has been discussed in a number of cases.

Q. The net result to the company?

A. The net result to the company; there is a little difference, but not very material. Either method may be used in water works cases without going very far from the real equity of the matter, but this, I think, is nearer the proper method. On the basis that I have taken it, and I have taken both accrued depreciation and annual depreciation on the same method, I should say $45,000 annual allowance for depreciation for the four companies.

Q. (By Mr. Hague.) Using your rate base and using the operating expenses of the company as of 1920, with the annual allowance for depreciation and interest on depreciation reserve which you have just stated, will you give us the total gross revenue required?

Mr. Wherry—Have you included taxes?

Witness—I included operating expenses and taxes as one item; I have included, as total operating expenses and taxes $478,000.

Q. Taxes is the difference between operating expenses and the $478,000?

A. Yes, sir.

Q. Give us those figures.

A. Taking a seven per cent. return on $3,000,000, $210,000; operating expenses and taxes, $478,000; annual allowance for depreciation, $45,000; total, $733,000.

Q. How does this amount compare with the income of the company in 1920?

A. About $48,000 more than the income of the four companies in 1920, eliminating therefrom, of course, the intercompany incomes; that is, I have taken out in one case the expenses and in the other case, the revenues derived from the sale of water between the companies.

Q. (By Commissioner Osborne.) What did you say the revenue is?

A. No response.

Q. (By Mr. Hague.) How does it compare with the income of 1920?

A. This $733.000 is about $48,000 more than the income in 1920, which was about $685,000—this being round figures.

Q. In your judgment, will the operating expenses in the future be at a lesser rate than they were in 1920?

A. Yes, sir, I think 1920 represents the peak of operating expenses. It seems to be certain that material reductions can be made in the operating expenses; there are reductions already in labor and materials and some reductions must be made.

Q. (By Commissioner Osborne.) But on this showing they need more money, they need an increase?

A. Under the conditions of 1920, yes, sir.

Mr. Hague—They need some increase, but nothing like what they claim, according to our figure.

Mr. Wherry—There is one other item. Of course, the minute the appraisal was made taxes would increase, and no allowance is made for that.

Mr. Hague—That isn't so.

Commissioner Osborne—That isn't so? Don't taxes increase as values increase?

Mr. Hague—I don't think taxes increased in the Elizabethtown Gas Light Company.

Commissioner Osborne—Then Elizabeth must be different than most of the municipalities that we come into contact with.

Mr. Hague—I will get that matter before you; I will get that information.

Commissioner Osborne—That is one of the difficulties about the handling of this utility problem. I can't see any common sense or logic in the municipalities taxing these utilities and then having them turn around and collect it back again from the municipalities; they fool themselves into believing they are getting something for nothing. The municipal authorities don't seen to be able to see that; at least, if they do, they won't recognize it.

Mr. Hague—Provided the property has been properly assessed in the first instance.

Commissioner Osborne—There is no sense in taxing at all, because you only have to get the money out of the people; it is like taking money out of one pocket and putting it into the other.

Mr. Wherry—Mr. Hague may be right about the gas company, because their tax is based upon a different method, provided for by the State law.

Commissioner Osborne—I am simply stating generally there is no logic in a public utility being taxed at all; it just makes a lot of cumbersome bookkeeping and trouble.

Mr. Hague—Is it a fact that they do really increase when the rates have been increased?

Commissioner Osborne—Not when the rates have been increased, but when the valuation has stepped.

Mr. Hague—If the companies are allowed an increase, surely they must pay more to the municipalities.

Commissioner Osborne—You can examine the records of this office and you will see tremendous increases in taxes by various municipalities, and then the company comes in and applies for an increase in rates made necessary in a large measure by their increased taxes.

Q. (By Mr. Hague.) You didn't consider that, Mr. Fuller, did you, anticipating increased taxes?

A. No; I took it on the basis that there will be some increase in taxes, but I didn't consider that the municipality would tax the full value of the property. I know that has been done in some cases. In some cases this Board has allowed it on that basis in the rates, which means, of course, that the municipalities, if they are to get back what the Board allows, must tax at the full value. I think that was done in the Commonwealth Water Company. I considered the taxes would go along somewhat on the same basis.

Mr. Wherry—In the Commonwealth matter the Board estimated the taxes would be put on the same basis.

Witness—I beg pardon.

Mr. Wherry—Practically.

Witness—No, there has been a $500,000 property put in since that time and the tax rate has gone up since that time, but the valuation was put in precisely at what the Board estimated.

Commissioner Osborne—I know the taxes in the Commonwealth case increased very much last year.

Mr. Wherry—In the Hackensack last year the taxes increased $75,000 over the estimate.

Commissioner Osborne—Yes, it is getting to be a great burden. However, we can't change it; I just wanted to call it to your attention.

Q. (By Mr. Hague.) Mr. Fuller, have you considered the question of the installation of meters or whether there would be any saving of water, or whether there would be any increased revenue to the company?

A. Yes, sir, there would be.

Q. And if there was, what do you consider the rate for metered water—do you consider that the present rate for metered water would enable them to earn a seven per cent. return on the fair value of the property as it is stated?

A. Yes, sir, I think it would. If meters were installed either one of two things must happen: Either there must be a saving in the amount of water put out from the plant, that is, a saving in operating expenses, or else there must be an increase in the revenue.

Q. (By Commissioner Osborne.) Well, it is a common knowledge among water engineers that there is a saving in water when it is metered.

A. Yes, sir.

Q. It isn't wasted so much.

A. That is true, and if they do waste it, they pay for it, and the company gets an increased revenue.

Q. It is a matter of water conservation.

A. That is the object of meters, to conserve the waste of water, more than it is a question of the price paid for water generally.

Q. (By Mr. Hague.) That being so, do you assume that the amount saved, or the increased revenue, would offset the difference between the figures as you have given them?

Mr. Wherry—As to $48,000 a year.

A. I should say it would, yes, sir.

Q. Do you consider that seven per cent. is adequate for a water company at the present time?

A. Yes, sir, I do.

Q. What is your reason?

A. Well, I have here a list of various utility bonds and other bonds, giving the prices on the stock exchange and on the outside market, and it seems to me that under present conditions a seven per cent. return on the entire value of the property is sufficient. It seems to me that, with the lessening profits in other lines of business, that any good utility bonds and stocks are certain to be considered a good investment on the basis of a seven per cent. return on the value of the property.

Q. (By Commissioner Osborne.) When?

A. I think it is true now.

Q. You said they are certain to be so considered, and I thought you were looking to some time in the future.

Q. (By Mr. Hague.) What is this paper I show you (handing witness paper)?

A. That is a summary of appraisal on the basis of present prices; that is a summary of appraisal prices on the identical structures now used by the Elizabethtown Water Company.

Q. Prepared by you?

A. Yes, sir.

Mr. Hague—I offer it in evidence.

Mr. Wherry—I object to it on the same ground that I objected to that other line of testimony, that he is appraising an ideal plant.

Q. (By Commissioner Osborne.) Is this a hypothetical plant?

A. No, that is identical.

Mr. Wherry—Oh, that is identical. I don't object to that then.

Commissioner Osborne—Very well, it may be marked.

(Summary of appraisal prices on identical structures in use by Elizabethtown Water Company, received and marked *Exhibit R-12.*)

Commiissioner Osborne—It is now time to adjourn. Do you gentlemen want another day fixed?

Mr. Wherry—I do. I think we ought to be able to finish in another day.

(Informal discussion regarding adjournment.)

Adjourned until Thursday, December 29th, 1921, at the Kinney Building, Newark, N. J., at 10:45 A. M.

BOARD OF PUBLIC UTILITY COMMISSIONERS.

NEWARK, N. J., THURSDAY, December 29th, 1921.

Elizabethtown Water Company, Watchung Water Company, Piscataway Water Company and Raritan Township Water Company—Increased Rates.

Before Commissioner Harry V. Osborne, Esq.

For the Petitioners appears W. M. Wherry, Esq.

For the City of Elizabeth appears Joseph T. Hague, Esq.

Commissioner Osborne—What situation was this case left in at the adjournment. We have so many cases running at the same time I have to refresh my recollection at each hearing.

Mr. Wherry—Mr. Fuller was on the stand on direct examination.

Commissioner Osborne—Is Mr. Fuller your last witness?

Mr. Hague—I think so.

W. E. Fuller resumes the stand on behalf of Objector, City of Elizabeth.

Direct examination, by Mr. Hague (continued).

Mr. Hague—There some corrections we wish to make in the record of Mr. Fuller's testimony at this time.

Q. Mr. Fuller, will you just make those?

A. Page No. 913, fifth line from the bottom, the word "speculative" should have been "expensive." 914, near the middle of the page, twelfth line from the bottom, the question is as to the Watchung property and the answer relates to all of the properties that are valued. I understood the question to be "these properties."

Mr. Hague—I ask the form of the question be changed to include all the properties, not the Watchung alone.

Witness—The last line, the same page, the word "and" should be "at." Page 923, the sixth from the last line, the word "he" should be "I." On the last line the word "buildings" should be "filters." Page 924, on the first line, the word "about" should be "above." On 929, seventh from the last line, the date "1918" should be "1919." Page 944, the eleventh line, the word "foreign" should be "Warren."

Mr. Wherry—That does not seem to be consistent with the next line, Mr. Fuller. What does "United States" mean?

Witness—United States Cast-Iron Pipe Company, pipe foundries. I think those are two well known pipe manufacturers. 952, seventh from the last line, the word "evidence" should be "system." 962, the seventh line, the word "taxes" should be "surplus." Page 979, the fifth from the last line, the word "on" should be "and." Page 982, ninth from the last, the word "youth" should be "life." 955, eleventh from the bottom, the word "not" should be omitted.

Q. Mr. Fuller, at the last hearing you were questioned in regard to the possibility of building new works in connection with the existing works. Did you take into consideration this matter in arriving at your estimate of a proper rate base?

A. Yes.

Q. Will you explain how you took it into consideration?

A. The present thirty-six-inch cast-iron pipe owned jointly by the Elizabethtown, Piscataway and Raritan Township Companies is available for use as a transmission pipe to bring water from the Raritan and Millstone Rivers to Elizabeth. This pipe is not large enough to carry economically the entire supply which is needed

by these companies. Under the circumstances, however, inasmuch as that pipe is already installed, it would be better to use it, putting in smaller works, smaller supply works at the Raritan River and utilizing some of the present supplies of the company. I should take the Hummocks and Springfield Stations for use. There would be no object in using the Piscataway or the Watchung Stations, because these would involve the conveyance of the water through the thirty-six-inch pipe, just as much as it would if the water is obtained from the new supply. In these stations more efficient equipment could be installed, reducing the operating expenses. By using this thirty-six-inch main for the present, a large reduction in the cost of the new works, as compared to those which I considered for the purpose of bringing the entire supply from the Raritan River, could be made. That is, it would avoid for the present the installation of the large pipe which I then considered. With this method the company could discontinue the use of the supply now obtained from the Elizabeth River, with its expensive land and reservoirs and other structures. Using the present prices as a basis for the estimate, both for the cost of the new works involved and also for the cost of reproduction of the present works which are necessary to supply the district under these circumstances, the cost of the works used and useful for supplying the water to the district would be as follows: For the new works built at the junction of the Raritan and Millstone Rivers, consisting of intake works, low-lift pumping station, purification works, and high-lift pumping station, togeter with the pipe line to connect to the thirty-six-inch line, and other appurtenances, one million five hundred thousand dollars; the Springfield and Hummocks pumping stations, well systems and appurtenances, two hundred and thirty-seven thousand dollars; land at Springfield and Hummocks Stations, and right of way for the thirty-six-inch line, one hundred thousand dollars. These would be the water supply works. For the distribution system, meters, gates, hydrants and other structures not in-

volved in the supply works, $1,389.000. For the transmission main taken on the basis of the value of the thirty-six-inch cast-iron pipe as a part of the larger system, $1,064,000. For the works installed since 1918, $160,000. Making a total of $4,450,000.

A seven per cent. return on this would amount to $311,500. For the operating expenses of the new works it is estimated $110,000 per annum. The operating expenses to continue the Springfield and Hummocks Stations, $70,000. For the other operating expenses, for the distribution and general expenses and other expenses exclusive of operating expenses, $98,000. Annual depreciation allowance, $50,000. Taxes, $90,000. Making a total, including a seven per cent. return on the cost of these structures, the value of these structures, $729,500. This is an increase of $42,000 over the revenue of the company in 1920, speaking of company in that case as the joint revenue of all four companies, excluding payments between the companies for water furnished.

I then considered the possibilities of financing the new works, as follows: Taking the cost of the new works at $1,500,000, I then deducted from that estimate for the value of the land which would be released, $210,000, and $15,000 as the scrap value of the works which would not then be required, leaving as an amount for new construction, less the above-mentioned amounts, $1,175,000. I then considered that the existing debt of the Elizabethtown Company in 1920, of $165,000, would be funded, and also that the bonds of the Elizabethtown Company, of $500,000 would be refunded, making a total amount to be obtained of $1,840,000. This added to the bonds outstanding on the Watchung, Piscataway and Raritan Companies would be $2,215,000.

Q. (By Mr. Wherry.) Two million and what?

A. $2,215,000. So if bonds were issued for this entire amount, it would be substantially one-half of the estimated value of the property. I therefore considered

that bonds would be issued for the full amount of $2,215,000, of which $375,000 are outstanding bonds of the three affiliated companies. Taking six and one half per cent. on the bonds, the new bonds to be issued, $1,840,000, gives $119,600. Five per cent. on the outstanding bonds of the three affiliated companies gives $16,250. Total bond interest $135,850. This would leave, from the amount estimated as a return on the investment of $311,500, a little over $175,000 which would be available for the use of the company for dividends or other purposes. The amount of outstanding stock of the Elizabethtown Company and the other companies amounts to $1,080,000, which would mean a large return on the stock could be paid if all of this was applied to dividends. I have considered therefore that it was possible for the company to finance to the extent of building these new works and still earn a substantial dividend on the basis of a seven per cent. return on that amount, or on the gross revenue of $42,000 more than was earned in 1920.

Q. (By Mr. Hague.) Does that provide for doing away with the Irvington Avenue Reservoir and the Chilton Street Reservoir and the Elizabeth Pumping Station on the Elizabeth River?

A. It does.

Q. And all the property in connection therewith?

A. It does.

Q. In your estimate of the required revenues for these companies, how have you considered the quality of the service?

A. In making up my estimates of the required revenues I have considered that the quality of the service of the company would be satisfactory.

Q. (By Commissioner Osborne.) That is you have considered, when these improvements which you have suggested are made, it would be satisfactory?

A. Yes, sir. I have assumed that this company would proceed to give satisfactory service to its consumers and on that basis I estimate.

Q. Would then be in position to?

A. Would then be in position to, with such other changes as they need to effect, for instance, the installation of meters and the installation of pipes to replace the old pipes which are substantially worn out or inadequate in service. In this connection, however, although this would add an additional amount of capital, I have allowed for it, inasmuch as I have given a large depreciation on the old property which has substantially served its time and should be marked off, the new capital replacing it, thereby reducing the depreciation reserve. But they have already been allowed a return on the capital which would be involved in the new structures to replace the old. So far as meters are concerned, I have considered the saving in the water which was necessary to serve, or the increased revenue which would be obtained, would more than offset the additional cost of installation of meters and the additional cost involved in the operation of the plant after the installation.

Q. (By Mr. Hague.) You have stated that you considered seven per cent. return on the rate base as adequate. Will you give your reasons for that opinion?

Mr. Wherry—I object to it on the ground that the witness is not qualified.

Commissioner Osborne—My recollection is that he did qualify in that respect by saying that he had in connection with his work made studies of capital return.

Mr. Wherry—As shown in newspapers, but that he never had done any financing of any utilities.

Commissioner Osborne—Do you think it is necessary for an expert to be able to qualify, to actually finance?

Mr. Wherry—Well, I think when it comes to raising money and knowing as to what you can raise it for, a man must have some experience in it.

Commissioner Osborne—It seems to me a man might qualify himself by a study of the situation, the financial situation and the money market, all of which is open to anyone's investigation who will take the trouble to investigate it, without actually being charged with the responsibility of raising the money for any particular company.

Mr. Wherry—Well, of course, it is notorious experience that when you come to actually finance an enterprise you do find a great many different practical difficulties that you do not and could not get from studying of records.

Commissioner Osborne—They are matters of detail, observations of what other companies have done and are doing, and a study of market conditions and contact with banking houses would give the necessary information upon which to base an opinion. Of course it is merely an opinion. I will take the testimony.

A. I based that on the fact that recent issues of public utility bonds have been put out at a very much lower figure than they have for some time in the past, that public utility bonds on the market are substantially higher than they were last year. At the present time a seven per cent. return is more than is required to pay the interest on the bonds. Public utility companies in the past month or so have put out issues at considerably less than seven per cent. return. This morning's paper contains an advertisement for an issue of an electric light company in San Antonio on the basis of 6.1 per cent. return. The daily papers showing the relative yield on bonds or the relative price of bonds, show there has been an increase in the public utility bonds during the year, of from fifteen to twenty-three per cent. The matter is well stated in The Magazine of Wall Street, in the number of December 10, 1921.

Commissioner Osborne—Is that a recognized financial journal?

Witness—It is, yes, sir. On page 170 it gives here a list of certain bonds which this magazine has used more or less as an index. It shows public utility bonds which had a yield on June 25th of 6.75 had a present yield of 5.85. It discusses new offerings of bonds in this article, showing that the rate required to float bond issues at the present time is very much lower than it has been the last two or three years. In other articles it is seen that the rate on bonds is—

Q. Can I see the article in question?

A. (Hands Commission a copy.) I would be glad to offer that in evidence.

Commissioner Osborne—It merely occurred to be to observe whether it was a signed article which would be merely the opinion of somebody who knew nothing about the subject, or whether it was an article for which the magazine itself stood.

Witness—My understanding is that it is an article that is carried from issue to issue, the discussion of these bonds, and these same bonds are quoted in each of the issues, at least for some time in the past. In the following issue of December 24th, the same bonds are quoted and utility bonds show a lower yield than they did in the December 10th magazine in which the discussion is contained.

The New York City stock recently sold at its highest price the stock has been sold since the year 1909. It is well known that the price of bonds has greatly increased and that money is comparatively easy. Of course, call and time money is on the basis of about five per cent. or less, as compared to last year eight per cent. or more during certain periods.

I have also a diagram taken from the Annalist, with a projection which I put on, based on standard bonds, showing the interest rates on standard

bonds, based on government bonds and high class railroad bonds, from the year 1860 to 1921, showing the high rates for bonds during the period, particularly along the 70's, up to 1880, then the gradually decreasing interest on bonds, the increase during the recent war, and the decrease since the peak of 1920.

Mr. Hague—I offer that in evidence.

Commissioner Osborne—Any objection?

Mr. Hague—Have you a copy for Mr. Wherry?

Witness—I have several copies of that.

Mr. Wherry—My only objection to it is it does not show what the bonds are here.

Commissioner Osborne—You may cross examine as to that if you wish to. He has testified that they were standard bonds. That leaves the matter open to cross examination, to ascertain whether he has put in bonds which there can be any question about. If you think it is worth while you may cross examine.

(Diagram showing rates on standard bonds from 1860 to 1921, received and marked *Exhibit R-13.*)

Mr. Hague—I would ask that those magazine articles be marked.

Commissioner Osborne—Any objection?

Mr. Wherry—Are they articles by the magazine? Are those signed articles?

Commissioner Osborne—No, they are not. They seem to be the regular department of a magazine for which the magazine apparently would therefore stand sponsor.

Witness—I have also a certain list of bonds—

Mr. Wherry—Will you please show me the pages where those are?

Witness—It is 170 in this one (indicating).

Mr. Wherry—How much of this do you offer in evidence?

Mr. Hague—The articles referred to by the witness.

Mr. Wherry—Is it page 170 and 171, both pages?

Witness—Pages 170 and 171, yes, sir, in the December 10th issue, and page 245, showing a similar list in the December 24th issue.

Mr. Wherry—The list?

Witness—The list bonds.

Mr. Wherry—No objection to the list going in.

Witness—The entire article is offered in the December 10th issue.

Mr. Wherry—I do object to the article going in, but not to the list. The article contains various statements by some unknown writer, an opinion of one sort or another. The lists purport to be quotations.

Commissioner Osborne—Will the introduction of the lists themselves meet the purpose of your testimony?

Witness—Well, there are certain statements in the article as to the new issues and other matters which I think are useful.

Commissioner Osborne—The difficulty seems to be, while you qualified as an expert, by this testimony you are putting in the opinion of some other person on these matters who has not qualified as an expert; he may or may not be an expert. I think the lists may go in but the articles may not, for that reason. Counsel has no opportunity to cross-examine as to the expressions of opinion which may be contained in those articles.

Mr. Hague—They will be marked in that way, allowed for the lists.

Commissioner Osborne—The lists contained on the pages that have been indicated in the record.

Mr. Wherry—Page 172. He stated he relied on the whole page, 170 and 172. He don't state what pages those lists are on.

Commissioner Osborne—The list on page 171 in the issue of December 10th, 1921, volume 29, No. 3, magazine of Wall Street is admitted.

(List on page 171, isue of December 10, 1921, of magazine of Wall Street, received and marked *Exhibit R-14.*)

Commissioner Osborne—A similar list in the issue of December 24, volume 29, No. 4, the same magazine, on page 245, purporting to give market quotations.

(List on page 245, issue of December 24, 1921, of magazine of Wall Street, received and marked *Exhibit R-15.*)

(Recess for five minutes.)

Witness—I have also taken into account prices on certain bonds, of which I have lists. These are, first, the bonds contained in a list put in by the company as an exhibit. These are certain public utility bonds, of which I have taken the prices as of November 26th, and for some of them the quotation of December 28th. Those for December 28th were all that I could find in the short time I had to do so. It shows a substantial increase in the price of most of these bonds since the prices quoted in the other exhibit.

Q. You have copies of those, Mr. Fuller?

A. I think I have three copies of each of those.

Mr. Hague—I offer them in evidence.

(Quotations of November 26th and December 28th, on list of bonds put in as an exhibit by the company, received and marked *Exhibit R-16.*)

Witness—I have also certain other bonds which I selected.

Q. (By Mr. Wherry.) Just a moment. Are these bid and asked for quotations you have here, or bid or asked or sales?

A. In which case?

Q. The way you marked them there.

A. These are prices bid as marked. The quotation of December 28th, adjoining the prices bid, are also bid prices, and in the last two columns are the prices asked.

Witness—I have a list here showing certain other public utilities as quoted on the New York Stock Exchange, showing the quotations of November 28th and 30th, and also for most of them the quotation for December 28th. This shows the per cent. of yield, taking into account the maturity, and also shows the net change from the low of 1913, the per cent. of yield, the net change from 1913, being on the basis of the quotations of November 28th, when the list was originally made up.

Mr. Hague—I offer those in evidence.

(Quotations on list of public utility bonds as of November 28th, November 30th and December 28th, showing yield and net change from low of 1913, received and marked *Exhibit R-17.*)

Witness—I have also, as shown, industrial bonds, which show the quotation of November 28th and for some of them the quotation for December 28th.

Mr. Hague—I ask those be marked.

(Quotations of November 28th and December 28th on list of industrial bonds received and marked *Exhibit R-18.*)

Witness—I have a list of railroad bonds, which contains the information as to the quotation of November 30th, the per cent. of yield, taking into account the payment at maturity, and for most of them the quotation of December 28th, 1921.

(List of railroad bonds showing quotation of November 30th and December 28th received and marked *Exhibit R-19.*)

Q. Does that complete that, Mr. Fuller?

A. I think so, yes, sir.

Q. By the building of the new works as stated by you, at the junction of the Raritan and Millstone Rivers, woulld that eliminate the purchase of water by the Elizabethtown Company entirely?

A. It would, yes, sir.

Commissioner Osborne—Do I understand that that is the development that the company proposes to make or has in anticipation or hopes to?

Mr. Wherry—As far as we know it is at the same point, but it could not possibly be the same development because it never could be done for the same price, that is, we have never had any price anywheres near that.

Commissioner Osborne—Regardless of the cost of doing that, is that what you have in mind, developing a water supply there?

Mr. Wherry—That is exactly the development.

Commissioner Osborne—This witness merely comes now and gives his opinion as to what it would cost to do that. The point of my inquiry was to ascertain whether his testimony was applicable to anything that was proposed to be done by you, because otherwise, of course, it would have very little value if it was a water works somewhere else that you could not and would not build.

Mr. Hague—As I understand, that is the contemplated plant.

Mr. Wherry—If he could show us how we could build it, perform this miracle—

Commissioner Osborne—Perhaps you can get on cross-examination some very, very valuable expert information.

Mr. Wherry—I am afraid we would be just wasting time. If he could show us how we could

perform this miracle it would do us some good, no doubt.

Mr. Hague—As I understand it, that has been the plan of the company for a number of years, and that was the reason for building this thirty-six-inch main to within two or three miles of this supply, and the property which has been included in this appraisal by the company is the very property which is to be used for that purpose.

Q. Mr. Fuller, did you examine the property used for the reservoir site of the Watchung Water Company?

A. Yes, sir, I have seen that site.

Q. What was the size of that tract, as you recollect?

Mr. Wherry—Which is this?

Mr. Hague—The Watchung reservoir.

A. My recollection is it has some sixty odd acres, but that is a matter of record.

Q. How much of that reservoir is used and useful for water works purposes?

A. The reservoir itself is only a small affair—I have forgotten the exact dimensions; it only occupies a very inconsiderable portion of the entire tract.

Q. About what proportion?

A. I would have to ascertain the dimensions of the reservoir. It is a small reservoir, a matter of I should say probably not more than one hundred and fifty feet square, perhaps less than that.

Q. Is the balance of the sixty odd acres used for any purpose?

A. Of course the pipe line passes over it, but outside of that there is no use of it for water works purposes.

Q. (By Commissioner Osborne.) Doesn't it conserve the supply as to purity?

A. No, sir, it is not for that purpose.

Q. Is it necessary to protect the water supply?

A. No, sir, it is not. The water is obtained from wells in the valley. This site is largely on the hill.

Q. Might not contamination result if the site were disposed of and used for, for instance, a dairy farm or the raising of pigs?

A. I don't think so.

Q. (By Mr. Hague.) Where is this located, what is the character of the ground?

A. Well, the site runs from the lower valley through which the river runs, up on to the side hill, or a portion of the watershed which supplies the wells, but it is only a comparatively small portion of the total watershed of those wells.

Q. Does it run up practically to the top of the mountain there?

A. I think it runs very nearly to the top, perhaps to the top.

Commissioner Osborne—How many acres are there?

Mr. Hague—Sixty.

Witness—My recollection is sixty-seven.

Commissioner Osborne—Is it farm land?

Witness—Yes, sir, it is mountain land.

Mr. Hague—It is mountain land on the side of the mountain.

Commissioner Osborne—Wooded?

Witness—To some extent.

Commissioner Osborne—Do you know anything about the value?

Witness—No, sir.

Commissioner Osborne—Is there any evidence of its value in the case?

Mr. Hague—Yes. My purpose is to show that this—

Commissioner Osborne—Is unnecessary, I suppose.

Mr. Hague—That it is unnecessary.

Commissioner Osborne—I was wondering how much it was worth. Do you remember the testimony?

Mr. Hague—How much it is worth?

Commissioner Osborne—Yes.

Mr. Hague—Yes, sir, I have that.

Commissioner Osborne—I thought perhaps you had it in mind. If you have not, never mind. It sometimes occurs to me when you take a small tract of land of no very great value, that it would make very little difference in the rate when it comes down to that aspect of the case, its retention or sale.

Mr. Hague—Sixty-seven and sixty-thousandths acres, and its value is $13,400 in the exhibit put in by the company.

Q. (By Mr. Hague.) What portion of this is land which you actually say is necessary for the reservoir of that company?

A. I should say five or six acres would be very ample.

Q. Would the portion that is going up on the side of the hill—could it be of any practical use for a reservoir site?

A. No, sir, I do not think it could.

Cross-examination, by Mr. Wherry.

Q. Mr. Fuller, how much time have you spent on this work which you have done in preparing yourself to testify?

A. I spent a good deal of time. I do not know as I can tell you exactly how much. But I have been actively engaged in this work, as you know, for some months.

Q. Beginning at what period, what date?

A. So far as this record shows, about October 5th.

Q. 1921?

A. 1921, so far as the active work is concerned. I was familiar with the property to a considerable extent before that.

Q. When did your familiarity with the property commence?

A. I have seen the property several times. I do not remember the first time that I saw it.

Q. What do you mean that you saw it; you mean you went over the property, or what?

A. I have been over the property before, some years ago.

Q. What was the purpose of your going over it some years ago?

A. Well, I was interested in other water supplies in the district and I looked these over at the same time. There was no definite purpose at that time.

Q. You were not employed by the company at that time?

A. I was never employed by the company. I think my partner, Mr. Hazen, some ten years ago, was employed by, I think, the Plainfield-Union Company, but I am not certain as to that, in connection with the Raritan and Millstone Rivers or the Raritan River development, involving storage reservoirs and various things at that time.

Q. He is still being consulted in regard to that Raritan River and Millstone development, isn't he?

A. I do not think so.

Q. Your visit to the company prior to your beginning to do active work to prepare yourself in this case was how long ago?

A. I think I have seen those properties two or three times. When the first date was I do not know.

Q. Can you give me any idea how long ago; is it ten years ago?

A. I may have seen them the first time ten years ago; I think very likely I did.

Q. What was the occasion of your seeing it ten years ago?

A. Well, I was interested in the water supplies in this district, and inspected those among others at that time.

Q. You just made an inspection trip?

A. Yes, sir, I made an inspection trip.

Q. Did you do that by automobile or horseback or foot?

A. I presume by automobile, but I would not say that first trip.

Q. Did you go over the whole system?

A. No, I do not think I went over the whole system at that particular time. No, I am sure I did not see all of the upper supplies at that time.

Q. Did you go to the pumping works?

A. I went to the Elizabeth pumping works.

Q. How long a time did you spend on that?

A. I can not say as to that.

Q. A brief time?

A. Why, not a great length of time. I suppose several hours.

Q. It really was a cursory inspection to get some data for some other inspections you were making?

A. General inspection of the works to see what the works consisted of there.

Q. In connection with some other matter?

A. Yes, sir.

Q. Was it in order to determine what the works were in order to compare it with some other work you were doing?

A. No, I think it was more for the question of finding out how that particular district was supplied and what the nature of the works were. I do not know as I had any particular company in mind or any particular project in mind at that time.

Q. Was it a question of whether the district had an adequate supply?

A. No, sir, it was not with any particular object of that sort at that time.

Q. It was not in connection with the work your partner was doing up there at the Millstone, just about the same time?

A. No, I did not make any inspection—

Mr. Hague—Just a second. I object. I cannot see what bearing this has on the case, for what purpose he might have examined the plant a number of years ago.

Commissioner Osborne—I cannot see that it can possibly have very much, but I would be glad to have counsel indicate his purpose.

Mr. Wherry—Simply trying to find out his familiarity with the plant.

Commissioner Osborne—I supposed that was it.

Mr. Hague—I have no objection to his finding out how familiar he was with it, but as to what purpose he went there for—

Mr. Wherry—Certainly that has a bearing.

Commissioner Osborne—That would seem to have a bearing on the character of the examination. For instance, if he went there for the purpose of making an inventory it would mean necessarily a very much more careful examination than if he merely went there to see whether there was any pollution of the water-shed, for instance.

Mr. Hague—I have no objection to him asking that.

Q. It was really just a cursory inspection at that time in connection with water supplies?

A. But it was not an inspection with the idea of making any appraisal at that time.

Q. Now then your next time you visited the plant, how long an interval elapsed between the two visits?

A. I cannot say as to how long an interval. I should say I probably saw the plant somewheres in the year 1919; I am not sure as to the date.

Q. A similar sort of investigation?

A. Yes, sir, it was a somewhat similar investigation.

Q. And then the next time?

A. Well, the next time was during this last two or three months, I have examined different parts of the plant on different days.

Q. Was that before October 5th?

A. No, that was after October 5th, I think.

Q. Really your actual familiarity with the plant commenced with this work that you did in this appraisal, October 5th, was it not?

A. I would not say that. I was familiar with the general nature of the plant before that.

Q. That is, you knew that they had—

A. I did not know, of course, the details of the plant nor had I seen an inventory of the plant up to that time. There were many things which I did not know existed up to that time, but as to the general nature of the works out here, I did know something about them before that time.

Q. Such as you could get from a cursory inspection?

A. Such as I could get from the inspections I made.

Q. Didn't you suggest they were rather cursory?

A. No, sir, I did not.

Q. Do you think they were thorough investigations?

A. I think they are intermediate. I went to the works to find out something about them and I found that out. I did not find out all the details.

Q. How much time did you spend on those trips?

A. I could not say. I suppose it was several hours that I spent.

Q. Each time?

A. Probably, yes, sir.

Q. Did you examine the books at those times?

A. No, sir.

Q. The only examination you made of this company's books was after October 5, 1921?

A. I have not examined the company's books, I have examined the company's reports to the Commission, and information given in the company's exhibit in this case.

Q. Did you ever examine any vouchers?

A. No, sir.

Q. What reports to the Commission have you examined, what dates?

A. All of the reports that have been presented from 1911 or 1912, whichever date the first one was put in.

Q. For all the companies?

A. For all the companies, yes, sir.

Q. Of course, the company had records before that date, did it not?

A. I presume they did, sir, yes, sir.

Q. You have stated that you took your book costs from the books; when you stated that you meant from the reports to the Commission?

A. I meant from the reports to the Commission and the data presented in this case.

Q. And not from the actual books themselves?

A. Not from the actual books, no, sir.

Q. Did you examine the air-lift pumps, the low-lift pumps that you have mentioned in the beginning of your testimony; did you examine them yourself?

A. To what pumps do you refer, sir?

Q. You referred to certain air-lift pumps which you said were inefficient.

A. You mean compressors and apparatus?

Q. I don't know what you were referring to.

A. I do not recall that I said the air-lift pumps were inefficient. I said the air lift system of getting water from the ground is an inefficient system.

Q. That is what I really wanted to find out, whether you meant these particular pumps were inefficient or that was an inefficient method of getting water.

A. I think I clearly stated that.

Q. You mean it was an inefficient method of getting water.

A. That the air lift is an inefficient method of getting water.

Q. In other words, if it was possible to go and sink an artesian well, that would be a more efficient way of getting water than to raise by an air lift, is that right?

A. Yes, sir, also it is possible to take less water at certain times and improve the efficiency of the general system.

Q. Of the general system?

A. Of the general system. In other words, to draw on the last bit of storage in the ground and get up from

a very great depth by the air-lift system is a very expensive way of getting water.

Q. But if your only supply is a well supply, and not an artesian well supply or a river supply, then you have got to use an air lift, do you not?

A. If you have got to have that last amount of water which is deep down in the ground, that is the commonly accepted way of getting. It is not the only way.

Q. Well, as a water supply, well supply reaches its limit because of the growth of population taking from it, you would have to install an air-lift system in order to get that last ounce of water.

A. No, sir.

Q. You could use some other method?

A. Yes, sir.

Q. Would the other method be inefficient, too?

A. Well, it is not very efficient.

Q. It would be inefficient compared with an artesian well or a gravity supply, is that right?

A. Of course, there is an additional cost of getting the water from the ground; there is no question about that.

Q. You mentioned certain pumps that you thought might be replaced by new pumps with a saving. Just what pumps did you think could be replaced?

A. If I were going to continue to use that system for any length of time I should replace the pumps at the Elizabeth Street Station, if it is going to be used, and I should also replace the pumps—

Mr. Hague—What station is that?

Witness—The Elizabeth River Station. Also at the Hummocks and Springfield Stations.

Commissioner Osborne—Mr. Wherry, may I interrupt before you leave the question of the air-lift pumps. Might I have a little information from the witness on that aspect of the matter?

Mr. Wherry—Absolutely. You can interrupt. The only point I was asking him was, as I under-

stand it, that there wasn't any particular inefficiency in this system.

Commissioner Osborne—What are the various systems of getting water out of the ground, outside of gravity. We know if you have an artesian well or gravity supply it flows through the forces of nature. All right; now, aside from that.

Witness—If the amount of water drawn out of the ground does not get below the limit of ordinary pump suction, it can be taken directly with the same efficiency or substantially the same efficiency you get from any pumping.

(By Commissioner Osborne.) That is suction?

A. By suction of the pumps.

Q. Unless it goes too deep?

A. Unless it goes too deep, yes, sir. The draught of water in that way takes advantage of the storage in the ground down to that level. Now, in order to get more water, as may be necessary at certain times, you can get that by either the air-lift system or by deep well pumps. The deep well pumps being of numerous kinds, screw pumps, centrifugal pumps and other types.

Q. Then as your supply is deeper you have to use a special pump, known as a deep well pump or an air-lift system?

A. Or an air lift, yes, sir.

Q. That is, forcing air into the pipe that taps the supply, which air displaces the water and forces it up, is that right?

A. Yes, sir, that is substantially correct.

Q. You say that is an inefficient method?

A. I say that is an expensive way of getting water.

Q. Is that more expensive than the deep well pumps?

A. I think, on a whole, it is, but that is a question, of course, as to efficiency and—

Q. Is it as effective as a deep well pump?

A. Yes, sir, I think it is as effective.

Q. What is the advantage of one over the other?

A. The only question really there is the question of economy.

Q. Of what?

A. The question of economy and of reliability. I have no criticism of the air-lift system if it is necessary.

Q. How can you determine whether it is necessary?

A. If you have to get that water that is deep in the ground—

Q. Assuming you have to get the water.

A. Then as I say I have no criticism of it. My point simply is this: that the water obtained in that way is an expensive supply.

Q. Of course it is more expensive to get it that way than by a gravity system or an artesian well or if you pump it out of the river?

A. Yes, sir; thaat was my only object in making the point. It is really an explanation of why another supply taken by another method may be cheaper to operate.

Commissioner Osborne—That is what I wanted to have in mind, whether your criticism went to getting the water out of these wells, the mechanical aspect of it, or whether it merely went to the general question of the sources of supply.

Q. (By Mr. Wherry.) The fact that the company has to use an air-lift system is an indication that it is approaching the limits of its sources of supply?

A. It is an indication that it has gone beyond the sources of supply you can get by direct methods.

Q. That particular source of supply?

A. That particular source of supply.

Q. (By Commissioner Osborne.) That is assuming it had a direct method. It never had a direct method. When you say it has gone beyond the limit of its source of supply, it is assuming it never had any source of supply. Some companies I believe rely upon it entirely.

A. Practically all well systems in this section can get a limited amount of water without the use of an air lift.

Q. By an ordinary pump?

A. Because the ground water level does come close enough to the surface so that during a portion of the year, a large portion of the year, they can get the water direct. It is a question of how much of that ground storage wants to be used, has to be used, just the same as the question of how much a storage reservoir on a stream would have to be used.

Q. The point is this: If there was any other supply available than can be very economically utilized, it is preferable to use it, because it reduces expenses of operation?

A. Yes, sir. Perhaps a little more than that, inasmuch as much of this water could be obtained by the other method.

Q. By what other method?

A. By direct pumping.

Q. From these same wells?

A. From these same wells.

Q. Then you do criticise the operation of the air-lift pump on these wells?

A. No, sir; not exactly that either.

Q. If you say it could be more economically obtained by a direct pump method—

A. If they only needed that limited amount, but when they need more they have got to get it from that supply, then they have to go into some such method as that.

Q. (By Mr. Wherry.) Do I understand you to say that in most well supply systems at the outset you do not install an air lift or equivalent to a deep pump system?

A. In a great many well systems you do not.

Q. Don't you know a great many have to install it at the very outset?

A. It depends entirely on how much water you expect to get from the ground. There are some cases where the ground water level is low, where you could get comparatively little any other way; yes.

Q. Then if at the outset of your plant you could get the water without having an air-lift system, if the de-

mands on that supply increased with the growth in the number of consumers, it might be necessary to install an air-lift system to take care of those demands?

A. If that is the best way of getting additional water; yes, sir.

Q. And if the company was limited in the place where it could get that water supply, by its charter, to a certain district, it would have to install air lifts, wouldn't it, so as to take advantage of the available supply that it could use, under its charter?

A. If that is the only source of supply, yes, you would have to install an air lift or equivalent system.

Q. Otherwise, it would have in some way or other to devise a plan to get a source of supply beyond the limits of its charter limitations?

A. I think I will have to have that question again.

Q. (Question read.)

A. As I understand the question—

Mr. Hague—What do you mean by "charter limitations"?

Witness—As I understand the question, this is the only source of supply it has within its own charter, and they would either have to get it outside—

Commissioner Osborne—Have what?

Mr. Wherry—Within the limits that its charter allows it to take water from.

Commissioner Osborne—This is the only supply?

Witness—That is the question he is putting to me.

Q. So it would have to put in an air-lift system in order to get the most out of that source of supply, or else find some device to go outside of the territory its charter limits it to.

Commissioner Osborne—That was the reason why they formed these subsidiary companies.

Mr. Wherry—Exactly. I wondered whether he had taken into consideration that aspect of the case when he made his criticism.

Witness—I have.

Q. Do you know whether this source of supply where they installed the air-lift pump is or is not the only available supply within the limits of their charter at the time they installed it?

A. I have assumed it was the only feasible supply.

Commissioner Osborne—I understand that his criticism presupposes the possibility of another source of supply.

Mr. Wherry—That is what I understood. That is why I am asking him whether he considered that or not.

Q. What other source of supply is there within the limits of the Elizabethtown Water Company's charter that would be available at the time they installed that?

Mr. Hague—What are the limits of the charter; Union County.

Mr. Wherry—I am asking him if he made a study of it. He says he has. I am asking him to point it out.

A. I have not investigated all of the possible supplies within that district. It may be that other well supplies could be obtained. It may be a further supply could be obtained from the Elizabeth River.

Q. You don't know that?

A. I have not considered any such source, but have considered the company has done as much as they could do towards getting that supply.

Q. You think they have done all they could do in getting that supply?

A. I have assumed they have.

Q. And in developing it?

A. Yes, I have assumed that they have done all they could in developing it.

Q. Of course, if they could develop this supply at the Raritan River and Millstone Creek to such an extent as to make it unnecessary for them to take water from

the other sources, there might in time be some economy made there, is that right?

A. Yes, sir; there would be an economy made there.

Q. I would just like to ask this question in regard to the estimate you made of the possibility of constructing a new plant at the Millstone Creek and Raritan River: How long would it take to make that construction, how long have you assumed?

A. Do you refer to the entire plant to get the entire supply from that source or only that portion of it to be taken through the thirty-six-inch line?

Q. You stated to-day that you could build a plant there for, as I understand it, one million five hundred thousand dollars that would include new works, intake, low-lift pumping, filters, high lift, and piping. Isn't that what you iincluded in that one million five hundred thousand dollars?

A. Yes, sir. I wanted to specify which development you meant.

Q. All of those, all of those items are in there?

A. Yes, sir.

Commissioner Osborne—Everything necessary to produce the supply of water to meet the exigencies of the situation, and abandon the old sources of supply you are criticizing?

Witness—And deliver it in this case to the present existing thirty-six-inch main.

Commissioner Osborne—Deliver it to the customer adequately.

Q. These works that you say you could construct there would have a capacity of how much, how many million gallons a day?

A. I should say the works in that case would be twelve millions normal capacity.

Q. Twelve millions a day?

A. Yes, sir.

Q. The company supplies twenty millions a day?

A. No, sir.

Q. Didn't you state in your testimony last week that you assumed that in order to give the company—to give

the equivalent service that these companies are giving would require twenty million a day?

A. I based that estimate on the actual amount of water used in 1920.

Q. Oh yes, but in 1921 when business had fallen off they have not needed twenty millions a day? Is that right?

A. They have not used twenty millions a day.

Q. Isn't that due to the fact—how much have they used in 1921?

A. I haven't the figures with me. It is considerably less, due somewhat to the falling off in business, and presumably considerably due to the installation of additional meters.

Q. What do you mean by considerably less, Mr. Fuller?

A. My recollection is it is between the sixteen and seventeen millions. It has been some weeks since I looked the matter up.

Q. Sixteen or seventeen million altogether, or less?

A. Altogether.

Q. That is about three million a day less?

A. It may be a little less than that; I am not sure as to the exact figures.

Q. You also stated, I believe, that during the last year the City of Elizabeth had not been getting as much water from the Watchung Company. Did you look at the records to see how much they have gotten in previous years?

A. During the last year, did you say?

Q. Last year, yes.

A. Yes, sir; I looked at the records as to how much they got for a number of years.

Q. In previous years they got considerable water from the Watchung, didn't they?

A. They got more, yes, sir.

Q. Isn't it a fact there has been a condition here during the last year that temporarily has made a falling off in the demand for water they have to supply?

A. I think there has been a reduction in the amount of water supplied to the large consumers, yes, sir.

Q. I am asking whether that is temporary.

A. I think that it will probably be increased to those same consumers. I do not consider it is going to be all in a short time.

Q. You are not such a pessimist that you think the company is never going to have any business revival, are you?

A. I am taking into consideration the fact that all manufacturing cities reached a peak during and immediately following the war, which probably will not be again reached for some years; that is true of all manufacturing cities along the New York and New England districts.

Q. Right after that they reached a valley, didn't they, right off of that peak, a falling off, shutting down of factories, falling off of manufacture that corresponds with that peak?

A. Well, it is probably—for manufacturing uses it is less than normal.

Q. What is that?

A. I think that is true; manufacturing uses are somewhat less than normal.

Q. Yes, but there is always an increase isn't there in the demands of water due to the normal increase in population?

A. If the population is growing that is true, unless other circumstances offset it.

Q. This population has been growing, hasn't it?

A. It has been growing rapidly. Whether it will grow rapidly in the next few years, I think there is considerable question.

Q. You have taken them—you have only estimated a works that would produce what you considered necessary on the 1921 consumption.

A. I have considered works which would be necessary for the 1921 consumption, so far as the capacity of the line is concerned. The works themselves are capable of furnishing more than that quantity.

Q. You are going to build larger works?

A. Yes, sir.

Q. Than the capacity of twenty million a day? Then, you tell me the capacity of the works that you assume here would be twelve million gallons a day.

A. What I mean is the capacity of the entire supply which I have taken on that basis is twelve million, which is limited entirely by the economical capacity of the thirty-six inch main.

Q. So you are going to build larger works for the pumping plant and the filter plant than that main could take care of?

A. Yes, sir, in many of its parts considerably larger and in some parts somewhat larger.

Commissioner Osborne—What is the capacity of that main you are speaking about?

Q. (By Mr. Wherry.) What is the capacity of the thirty-six inch main?

A. I have taken the capacity of the thirty-six inch main for present use at twelve million gallons.

Q. That eliminates any use that the Piscataway and Watchung companies are making of it?

A. Yes, sir.

Q. You are reducing the use which is now being made of that main, in order to take more water from this source of supply?

A. Yes, sir.

Q. You would still have to take water from some other source of supply, even on the 1921 figures, to make up the difference between that twelve million and the seventeen million that you say they used in 1921, wouldn't you?

A. Yes, sir.

Q. And where would you get that?

A. I was retaining the Springfield and Hummocks stations.

Q. You would retain them?

A. Yes, sir.

Q. How much can ou get from those two sources of supply?

A. About from five to six million on the average.

Q. From the two of them?

A. Yes, sir.

Q. And if there was any sudden drought, you would have to get water from some other source, because your thirty-six inch main had reached its limit?

A. No, sir, the thirty-six inch main can carry more water than twelve million.

Q. How much?

A. That is a question of how much pressure you put back of it.

Q. How much pressure could you put back of it?

A. It is also a question of how much storage capacity you have in the reservoir.

Q. Which reservoir?

A. In the reservoir to be built alongside.

Q. You did not include that in the estimate?

A. It is included in the estimate; reservoir at the site, which was, as I understand it, purchased for that purpose.

Q. How large would that reservoir be?

A. About a seven million gallon reservoir.

Q. How much would it cost to build the reservoir?

Mr. Hague—He says he included that in the estimate.

Mr. Wherry—Yes. I am asking how much it cost.

A. About $150,000.

Q. The reservoir is $150,000 and that reservoir has a capacity of seven million.

A. Yes, sir.

Q. Have you made a detailed estimate of that reservoir?

A. I based the estimate of that reservoir on—

Q. I asked whether you made a detailed estimate of the reservoir.

A. I have not made a detailed estimate as to the quantities of concrete involved in that reservoir, no, sir.

Q. Would there be cement used in that reservoir?

A. Yes, sir.

Q. What is the price of cement to-day?

A. I don't know, to-day.

Q. The price of cement is high, as high as it was before the war, isn't it?

A. No, sir. Before the war?

Q. Yes; a great deal higher than before the war.

A. Yes, sir, higher than before the war.

Q. A great deal higher?

A. Yes, sir.

Q. One of the things that have not come down.

A. No, cement has come down.

Q. How much?

A. I would have to look up those figures. I can not remember them. Do you want me to look that up?

Q. I will ask you to; we will be adjourning here. How about the pumping system; what is the capacity? What else have you got there? Under new works you have intake; what does intake mean?

A. The intake works would consist of the dam with the necessary works to take the water from the stream, gates, screens.

Q. How much do you allow for your dam? Did you make a detailed estimate of it?

A. Well, the dam and intake works I have allowed $37,000 for.

Q. How much?

A. $37,000.

Q. $37,000 for the dam; what is the size of the dam?

A. I don't think I have a record of the length of the dam. It would be a low dam sufficient to take water from the stream. I have some figures on that, but I do not think they are in this table.

Q. What is the capacity of that intake?

A. The capacity of the intake works?

Q. Yes.

A. The capacity of the intake works is about twenty million gallons so far as the pipe is concerned. So far as the dam is concerned a much larger quantity could of course be taken from the same point.

Q. Does $37,000 include the pipe?

A. No, sir, only the intake works. The pipe involved would be a pipe to the site of the purification works.

Q. What is that, what size pipe?

A. I included 350 feet of suction pipe as a part of the intake works. That really takes it to the low-lift pumping station, and there of course it would have to be pumped to the site of the purification works.

Q. What is the size of the pipe?

A. I estimated forty-eight inch pipe on that.

Q. Forty-eight inch; what did you figure for the price of it?

A. $20 a foot.

Q. $20 a foot?

A. Yes, sir.

Q. Is that laid?

A. Yes, sir.

Q. How much per ton did you figure for the cost of that pipe?

A. I did not figure it on a tonnage basis. It is steel pipe.

Q. What do you think you could get it for?

A. Tonnage?

Q. Yes.

A. Well, fabricated it probably would run at the present time somewhere in the neighborhood of five cents a pound, five and a half cents. I took that, however, on the basis of figures for completed pipe lines which we have recently received in connection with another job.

Q. Where was that job?

A. That is Saginaw, Michigan.

Q. Where was that pipe going to be gotten from?

A. Well, presumably from either Pittsburgh or from New Jersey.

Q. Presumably? Wasn't that a particular job?

A. It was an estimate and it was made up by getting—

Q. I thought you said it was a figure of an actual job.

A. I do not think I said that.

Commissioner Osborne—I think you said a completed job.

Witness—I think not, sir.

Commissioner Osborne—Read the answer.

(Answer read.)

Witness—I better explain that. I mean by completed, for the entire—

Commissioner Osborne—An estimate on the completed job?

Witness—On the completed pipe line and not on a tonnage or pound basis.

Commissioner Osborne—Yes, that is laid. Is that a contractor's bid or an engineer's estimate?

Witness—That was not a contractor's bid but it was the estimate which we made for the City of Saginaw after the consultation with a number of pipe manufacturers.

I also based it on the recent bids—

Mr. Wherry—Just a minute.

Commissioner Osborne—Let him finish his answer.

Witness—I also based it on the recent bids for steel pipe at Syracuse, New York, where they got competitive bidding.

Commissioner Osborne—That is your own estimate?

Witness—The first was our own estimate.

Commissioner Osborne—And based on your own estimate on other work?

Witness—Yes, sir. This was the actual bid price of pipe, Syracuse, New York, not on work with which I was directly connected.

Q. That Syracuse was a different size pipe?

A. Yes, sir, thirty-six inch pipe.

Q. And you gave that as an illustration of how you could sometimes get pipe cheaper than the quoted market price?

A. No, sir, I did not say that.

Q. Wasn't that the pipe you referred to in your testimony last week?

A. I referred to the cast-iron pipe prices.

Q. This is another kind of pipe?

A. This is the price on steel pipe.

Q. At Syracuse?

A. Yes, sir.

Q. How large a pipe was that?

A. That was a thirty-six inch pipe.

Q. Was that actually purchased, or an estimate or a bid?

A. That was a bid price.

Q. What was the bid price?

A. The bid price was—I think I have that here—well, there was a price bid in that case of $6.80 per foot for 32,000 feet of steel pipe furnished and laid. I must explain that the laying in that case does not include the excavation. That was another figure. There are other prices bid of $7.30 from the National Tube Works for welded pipe.

Q. That did not include excavation?

A. That did not.

Q. How much have you taken this forty-inch pipe at, laid?

A. Twenty dollars.

Commissioner Osborne—Twenty dollars?

Mr. Wherry—Twenty dollars a foot.

Q. (By Commissioner Osborne.) What kind of pipe is it? You have talked about fabricated pipe, steel pipe, cast-iron pipe, and recently another kind of pipe.

A. On this large pipe I estimated on steel pipe.

Q. Is that what should be laid there?

A. At the present time, yes, sir, without question, unless cast-iron pipe will come down even from the price quoted in Syracuse.

Q. (By Mr. Hague.) What is fabricated pipe? Is that steel pipe that is fabricated?

A. That is what I mean by fabricated pipe, would be the entire completed pipe, not plates.

Mr. Hague—Completed, the fabrication of the steel pipe.

Q. (By Mr. Wherry.) How much of that twenty dollars per foot did you allow for the actual tonnage and freight of the pipe, and how much did you allow for the fabrication?

A. Well, sir, I will make an estimate of that if you wish it that way.

Q. Didn't you make an estimate?

A. I did not in that way, no, sir. I took my price on the basis of what we had actually received, the information received from pipe manufacturers, and upon these other figures.

Q. That was at Saginaw?

A. And upon also the price which we had on this class of pipe before the war, compared to these prices; a general study which I have always made on steel pipe.

Q. What were the prices before the war on it?

A. I will have to get those for you if you wish them. In a general way that information is contained in the American Civil Engineers' Hand Book, of which our office got out the information as to steel pipe costs.

Q. Would that twenty dollars per foot be more or less than before the war?

A. It would be more.

Q. How much more?

A. Not a great deal more than some pipe lines at that time. Steel pipe has come down very materially and it is not very far above the pre-war price.

Q. You think this is a good time to put in an order for the steel pipe?

A. No, sir. I think you will get lower prices later, even on steel pipe.

Q. You think then that your estimate is too high, do you?

A. I did not say that, sir.

Q. You say you could get them lower later on?

A. I think this estimate is higher than it will cost later, to do the same work.

Q. (By Commissioner Osborne.) Your estimate was as of the time you made it?

A. Yes, sir.

Commissioner Osborne—Mr. Wherry, I think I indicated when I fixed this date that I would have to probably take a little longer recess than usual.

Mr. Whehrry—Yes, sir, I think you did.

Commissioner Osborne—Owing to another engagement. It is now a quarter of one. I think we will take an adjournment until a quarter past two, that is an hour and a half instead of one hour.

Mr. Wherry—If Mr. Fuller could during that interval prepare the details of it it might save some time here.

Commissioner Osborne—You will indicate to Mr. Fuller what you want.

Witness—If there is anything I can prepare in that way.

Commissioner Osborne—You can do that off the record.

(Recess from 12:45 to 2:15.)

AFTER RECESS.

W. E. Fuller resumes the stand on behalf of Elizabeth.

Cross-examination, by Mr. Wherry (continued).

Q. Mr. Fuller, you stated before lunch, I believe, that you could prepare a detailed estimate, but that you had not prepared such an estimate for the purpose of this testimony you have just given in regard to the improvements at the Millstone and Raritan, is that correct?

A. I have an estimate prepared as we prepare estimates for the cost of proposed works, in which I have estimated the cost of these works by the use of the information and data which I have available.

Q. Have you got that estimate here?

A. I have the items which go to make up that estimate on this basis, yes, sir.

Q. Have you got the whole estimate, as you made it, there?

A. Yes, sir.

Q. The items; will you give me that please?

A. The intake works, $37,000; the low lift pumping station and equipment, $93,000; the filtration plant and equipment, $266,000; the pipes from the low lift station to the filters, $168,000; the high lift pumping station, $240,000; these items including the equipment and appurtenances; the piping about the filters, which is not included in the filter estimate itself, $12,000; the pipe from the high lift station to the Piscataway line, $36,000; reservoir, $150,000; the connections and other works in connection with the reservoir, $30,000; overheads, contingencies, and so forth, $200,000; land, damages and miscellaneous items, $168,000; I have called it $1,500,000.

Q. What is the actual total of those, more or less?

A. It is less than that.

Q. This 350 feet of forty-eight-inch pipe, where does that appear?

A. That is included in the intake works.

Q. In the intake works; you gave me the item for the intake, $37,000, didn't you?

A. Yes, sir. There is 300 feet of pipe included in that.

Q. Will you give me the capacities?

A. The capacity of the intake works, the dam is sufficient to take whatever water would come into the stream. The intake itself is a forty-eight-inch pipe and is easily sufficient for a twenty million supply. The low lift pumping station is based on a station building sufficient to increase the capacity; the equipment installed is on the basis of two twelve million gallon pumps; the piping from the low lift pumping station to the fillers I have taken the same size as the main pipe, thirty-six inches.

Q. Which was that?

A. The pipe from the low lift pumping station to the filters. The high lift pumping station is based on a capacity of two twelve million gallon units. The pipe from the pumping station to the present thirty-six-inch line is taken as a thirty-six-inch pipe.

Q. What about the filters?

A. The filters are based on an average use of twelve million gallons, with a chance to increase the units as required.

Q. There is room there to add new units?

A. Yes, sir.

Q. In each case where you have pumps installed there you have installed two pumps, haven't you?

A. Yes.

Q. One is a twelve million gallon pump with a twelve million gallon spare?

A. Two twelve million gallon pumps.

Q. Would these twelve million gallon pumps be necessary to install at the outset?

A. I should install them, so estimated it, yes, sir.

Q. Now, if you were making up a detailed estimate in order to bid on it, you would have to make a very much more detailed study of it than you have for this purpose, wouldn't you?

A. If you were to get bids on the work it would be necessary to make a complete design and contract plans for the work. Such is not done on the basis—

Q. Never mind whether it is done. That is what you would have to do and you did not do that here?

A. I did not make any contract plan for this work, no, sir.

Q. Did you assume this would be done by contract or how did you assume it would be done?

A. I assumed it would be done by contract.

Q. And by a series of contracts or one contract?

A. Why, by several contracts.

Q. And how would you divide that?

A. Well, our general custom for doing that class of work would be to make either one general contract for

the structures, such as pumping stations and filters, and pipe lines, with other contracts for the machinery, cast-iron pipe, fittings, gates and appurtenances, or else to split the main contract into several parts, and that would depend somewhat an the question of time and also on the question of the best method to handle the work.

Q. What did you assume here?

A. As far as the estimate is concerned it would make no difference. I did not assume either one or the other specifically.

Q. In regard to time, what time did you estimate it would take to build this complete?

A. I should say two years.

Q. From the time you start to the time it is put into operation?

A. Yes, sir.

Q. Will you please give me the items for your overhead, how you divided it?

A. Well, I can make you up a subdivision of that if you want it. I haven't it here.

Q. You haven't got it?

A. I haven't it here, no, sir.

Q. What does it include?

A. Contingencies, interest during construction, engineering, administration expenses during construction, taxes during construction, legal expenses during construction; those are the main items.

Q. What have you allowed for the total overheads, average?

A. It is a little less than twenty per cent.

Q. How much of that is for omissions and contingencies?

A. Well, the allowance for omissions and contingencies would be rather large. I should make it larger than I would on other estimates.

Q. That is because you have not made detailed estimates, or what?

A. That is the custom which I have on estimates made for proposed work.

Q. How much have you allowed for omissions and contingencies?

A. Well, I will make that up for you and submit it to you.

Q. I would like to have it if you could give it to me.

A. I do not believe I have it in my notes, although I may have.

Q. (By Commissioner Osborne.) Can't you make that up and submit it later, if you haven't it at hand?

A. Yes, sir. I think I have it here somewhere but I cannot lay my hand on it.

Q. (By Mr. Wherry.) Isn't that estimate of twenty-per cent. for overheads small for an estimate on a job of this sort?

A. No, sir, I do not think it is. I have of course allowed a further amount, making up the round figure of $1,500,000.

Q. You have allowed a further amount?

A. Yes, sir.

Q. You mean in order to make it a round figure?

A. Yes, sir.

Q. And you call that an addition to your contingency?

A. You may so call it, if you wish; I made up a round figure.

Q. How much additional have you added for that; what does the total come to?

A. It amounts to substantially $100,000.

Q. Do you intend to add twenty per cent. for overheads?

A. Well, I actually added $200,000, which is a trifle less than twenty per cent.

Q. But your idea was that twenty per cent. would be a fair amount to allow?

A. In this case I thought twenty per cent. would be a fair allowance to make.

Q. Have you ever added more than that in estimating on construction jobs?

A. I do not think so. I may possibly have added twenty-five per cent. in a few cases where there was an unusual amount of uncertainty in the work, but I do not recollect any such case.

Q. What interest rate have you used?

A. I should take the basis of that as six per cent.

Q. If your overheads actually do not amount to twenty per cent., that item should be increased, should it? That is, if the $200,000 is not actually twenty per cent. of your base it should be increased?

A. No, sir, I think I have allowed ample for the overheads and contingencies.

Q. You mean you have, that the round sum would figure it, not the percentage.

A. Yes, sir, I think the round sum is sufficient.

Q. Don't you usually estimate it on a percentage basis?

A. Sometimes approximately and sometimes not. It is quite a common custom to use a figure which makes a round sum, which is approximately on a percentage basis.

Q. Is twenty per cent. what you would ordinarily add in a purchase and sale case?

A. No, sir.

Q. Less or more?

A. It is more than I would ordinarily add in a purchase and sale case where the structures were built and you were estimating the structures actually in existence.

Q. Did you take part in the Spring Valley Case?

A. No, sir.

Q. I thought you said in qualifying yourself that you did take part in the Spring Valley Case?

A. I did not, sir.

Q. If the record so reads, that is an error, is it?

A. If I said I took part in the Spring Valley Case, it is an error, but I am positive I did not say that.

Q. You are familiar with that case?

A. You are referring of course to the Spring Valley rate case or the valuation proceedings.

Q. Yes. Are you familiar with that case?

A. To some extent, yes.

Q. Are there any special circumstances which would make it necessary to add a very large allowance for overheads and contingencies in this case?

A. Yes, sir.

Q. What were they?

A. Well, the structures there are very large structures; they go over a large amount of territory; it would take a long time to build them. I think the overheads in that case would be large, yes, sir.

Q. Do you know what they were?

A. No, sir, I do not.

Q. Do you know what your partner, Mr. Hazen, claimed?

A. No, sir, I do not.

Q. If I show you the record in that case would it refresh your recollection?

A. I expect it would, sir.

Q. That was a rate case?

A. There are several cases.

Q. That is the last one.

Commissioner Osborne—Of what materiality is this? Suppose his partner did reach a different conclusion; does that bind him?

Mr. Wherry—He says this is a large amount for overheads and contingencies in a case where he is anticipating in advance. His partner is a very distinguished engineer—

Commissioner Osborne—I suppose all these eigineers have different ideas, judging by what I have heard them say. I do not see how it would affect this case at all, because you show him another case in which another engineer reached a different conclusion, a case in which we have not before us the facts and circumstances upon which the conclusion is based.

Mr. Wherry—If you do not think it material, all right; very well. Of course the allowances in

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other cases are material as bearing on what good engineering practice is.

Commissioner Osborne—Yes, but that is not the way to get it in.

Q. Mr. Fuller, in your allowance here of $200,000 for overheads, you have assumed that this whole plant would be built within two years, and the interest during construction is covered by that amount?

A. Yes, sir.

Q. During the time that that plant was being built the company would have to use, utilize its old plant, wouldn't it?

A. I should so assume; yes, sir.

Q. Have you taken into consideration the question of amortizing the old plant?

A. Yes, sir.

Q. Over how long a period do you think the company ought to amortize it?

A. I think the company has earned enough to the present time and should have amortized a large share of its plant.

Q. (By Commissioner Osborne.) What?

A. I think the company has already earned enough and should have amortized a large share of the plant at the present time.

Q. (By Mr. Wherry.) For how long a period do you think it should amortize the plant? Do you think it should write it right off?

A. No, sir; I have not so assumed. I have assumed that they would use the plant for some little time, in fact some parts for a longer period. I am referring now more particularly to the supply works.

Q. Whatever you are going to abandon here has got to be amortized; if they did not amortize it in the past they would have to amortize it in the future.

A. It should be amortized; yes, sir.

Q. What have you allowed here for amortization of that plant?

A. The rate at which I have allowed amortization in fixing on the annual depreciation allowance is sufficient

to amortize those portions of the plant within a few years. I have included a number of items in that plant on that very basis and upon that basis alone.

Q. You have not made any special provisions for amortization aside from the depreciation allowance you deducted or the depreciation estimate you fixed for annual depreciation in the future?

A. I have included those items in my figures which I have presented in this case; yes, sir.

Q. In the other figures?

A. Yes, sir.

Q. No special treatment of it?

A. I think it is a special treatment of it. It is an adequate treatment of it.

Q. In estimating this pipe, what sort of digging did you assume there would be there?

A. Referring to what pipe?

Q. This pipe, the forty-eight-inch pipe.

A. You mean for the intake works?

Q. You said you had 350 feet of forty-eight-inch pipe.

A. Yes, sir.

Q. At twenty dollars a foot. What sort of digging does that cover?

A. I have estimated that on the basis of some wet trench.

Q. How much wet trench?

A. Some wet trench throughout the length.

Q. For the whole length?

A. For that 300 feet; yes, sir.

Q. Did you take into consideration that any part of this might be flooded; made any provision for flood protection in there?

A. For what parts of the works?

Q. Some of your work is right along the river, isn't it?

A. Yes, sir; I have.

Q. How much did you allow for flood protection; how did you treat that?

A. Of course, the intake works themselves are water works. The location of the low lift pumping station would need some protection, although no great amount of it. The location of the filtration plant and high lift pumping station is a matter of selecting the site. The site as shown on some of the exhibits in this case is not, in my judgment, the best site.

Q. You have assumed it would not need flood protection?

A. For which works?

Q. The ones you are just speaking of.

A. The filtration plant?

Q. Yes.

A. No, sir; I should not put the filtration plant where it needed flood protection

Q. Mr. Fuller, you have assumed that the land, certain lands, could be sold here; haven't you; and in your financing you have excluded the price of those lands from the amount of financing you have to do.

A. I have excluded those lands from the amount of financing, because those lands would not be used and useful for water works purposes. If they are worth that much I have assumed they could be sold.

Q. Going to your question of financing, you have assumed that this could be financed by an issue of bonds; what would be the security of those bonds?

A. Well, if the structures as I have taken them from the inventory of the company exists, and if it costs this much to build the works there would be a total value of the plant of $4,400,000 in round figures, as I recollect the amount.

Q. That includes the Elizabethtown distribution system?

A. The Elizabethtown distribution system; yes, sir.

Q. Does it include any property of the Watchung and Piscataway Companies?

A. It does; yes, sir.

Q. You are not taking any of their supplies for Elizabethtown under this plan?

A. No, sir.

Q. Why would you include any part of their property?

A. I have included their distribution system and other structures as part of this general water works property.

Q. In other words, in order to do this financing you recognized the companies would have to be consolidated or the Elizabethtown could not issue these bonds?

A. Well, that depends on the ownership of the property. If this new property was built by the Elizabethtown Company the security would be a little less, a little less percentage than if all the companies were taken together.

Q. Have you made any estimates as to what the cost of financing would be, to place those bonds?

A. I have taken the cost of the bonds at six and one-half per cent.

Q. To the company?

A. To the company, yes, sir.

Q. Do you know what these notes of the Hackensack Water Company that have just been placed and approved by the Board cost the company?

A. I understand they are sold at seven per cent.

Q. How much did the company have to pay in addition to that for the financing?

A. I don't know.

Q. Is it your opinion that this Elizabethtown Company with the earnings it has been showing here in the last two or three years could finance as advantageously as the Hackensack Water Company?

A. These notes are not a prior lien on the property, as I understand them. I should say the Elizabethtown Company could issue bonds, to the extent I have indicated, better than at seven per cent.

Q. What have you allowed for your overheads in the reproduction estimate that you put in here, what percentage?

A. I would have to compute that on the total estimate.

Q. Is it in your exhibits; which exhibit is it in?

A. It is in *Exhibit R-4.*

Q. In what column in that exhibit?

A. Well, the overheads are shown in the second column on the various structures. I do not know that it is shown anywhere as a general percentage for the entire structures. It can easily be computed if you want to know it.

Q. Not if it is in there; that is simply a matter of computation.

Mr. Wherry—I have no further questions from this witness.

Commissioner Osborne—Have you anything further?

Mr. Hague—No.

Commissioner Osborne—Have you any other witness?

Mr. Hague—No.

Commissioner Osborne—Do you close your case?

Mr. Hague—Yes.

Commissioner Osborne—Have you any rebuttal?

Mr. Wherry—The only additional testimony that I have to put in is that I have furnished Colonel Betts and Mr. Hague a synopsis of those deeds. That is not marked as an exhibit or in the record. I suppose it should be marked as an exhibit.

Commissioner Osborne—Have you that paper furnished you, containing the synopsis, Colonel Betts? Let it be marked in evidence.

(Synopsis of deeds received and marked *Exhibit P-11.*

Mr. Hague—I might ask if the answers to the questions that were propounded, and the information to be furnished by Mr. Hill, whether that has been put in evidence or not? I am not certain whether it was. There were some figures as to cost.

Mr. Betts—Yes, sir, it is marked P-8.

Mr. Hague—They have been introduced. Then the matter furnished by Mr. Hill has gone in, has been put in evidence.

Commissioner Osborne—Do you gentlemen desire to sum this case up?

Mr. Wherry—I would like to also put in the earnings and operating expenses for the past eleven months, if you would like to have that.

Commissioner Osborne—Any objection to the earnings and operating expenses for the last eleven months?

Mr. Wherry—And the capital additions. Usually the Commission asks for that in the case.

Mr. Hague—Aren't those shown in the reports furnished to this Board?

Mr. Wherry—The last report has not been filed.

Mr. Kean—Not for 1921.

Commissioner Osborne—These are brought right up to date.

Mr. Hague—I would like to see them.

Commissioner Osborne—Have you copies?

(Copies are furnished.)

Mr. Hague—Who is going to prove these, Mr. Wherry?

Mr. Wherry—Captain Kean.

Commissioner Osborne—Now, do counsel wish to sum this case up, have oral argument?

Mr. Hague—We would like to have a little detailed explanation of this, if possible.

Commissioner Osborne—Can you furnish it now, Mr. Wherry?

Mr. Wherry—Captain Kean can take the stand and explain this.

Commissioner Osborne—The witness will go on the stand and you can cross-examine on it.

John Kean, sworn on behalf of Petitioners.

Direct examination by Mr. Wherry.

Q. Captain Kean, are you treasurer of this Elizabethtown Water Company?

A. Director.

Commissioner Osborne—I cannot hear you.

Witness—I am director of the Elizabethtown Water Company.

Commissioner Osborne—I do not hear the question.

Mr. Wherry—He said he was a director of the Elizabethtown Water Company.

Commissioner Osborne—I heard his answer. I did not hear the question.

Q. What is your position with the Elizabethtown Water Company?

A. I am a director of the Elizabethtown Water Company.

Q. How long have you been in that position?

A. I have been a director for ten years, this spring.

Q. Have you had charge of the making up of the estimates of operating expenses and revenues for the past eleven months?

A. I have had a combined operating statement of the Elizabethtown Water Company and subsidiary companies for the eleven months ending November 30, 1921, made for me under my direction.

Q. Will you produce it, please?

A. (Witness produces paper.)

Mr. Wherry—I offer it in evidence.

Commissioner Osborne—It is offered in evidence. Any objections?

Mr. Hague—I would like to ask some questions about it.

Commissioner Osborne—Cross examine on the admissibility.

Cross-examination, by Mr. Hague.

Q. What is the first item you have under the heading of operating revenue?

A. Unmetered service.

Q. Does that cover everything right down to the 30th of November?

A. That covers everything right down to November 30th, yes.

Q. All of the unmetered service. When are the bills made out until?

A. They are made out until—

Q. Covering what period?

A. Covering to March, three months bills made out on October 1st to March 30th.

Commissioner Osborne—Of this year?

Witness—From October 1st to March 30th; that is correct. From October 1st. The unmetered bills are made out on October 1st, covering a six months' period, and are payable in advance.

Q. When is the metered service made up until?

Commissioner Osborne—Just a moment. Then this period ending October 30th covers two months of a six months' period.

Witness—Yes, sir.

Commissioner Osborne—If you send out your bills for a six months' period from October 1st, you have then taken only two months of the total of those bills and incorporated it in this unmetered service item, is that right?

Witness—That is my understanding.

Q. (By Mr. Hague.) Did you make this up, Captain?

A. I did not.

Q. (By Commissioner Osborne.) You had it made up?

A. I had it made up.

Commissioner Osborne—Perhaps counsel can tell me, if he is familiar with it, whether it is so. We just do not want to have any misunderstanding about what these figures embrace. I suppose that is the idea.

Mr. Hague—Yes. If these figures are correct I do not want to go into the detail of it.

Commissioner Osborne—This is two-sixths or one-third of the period, of the six months' period. The bills are made up from October 1st for a period of six months in advance, and this figure of $234,000 plus is one-third of the total of those bills, is that right?

Q. (By Mr. Hague.) Are you familiar with these figures, Captain, or are they figures that have just been made up for you by somebody else in the office?

A. They are figures made up by somebody else in the office.

Q. (By Commissioner Osborne.) Under your instructions?

A. Under my instructions.

Q. What did you instruct them in regard to that?

Commissioner Osborne—Did you have anything to do with this, Mr. Hill? Did you have anything to do with the preparation of these figures?

Mr. Hill—I did not prepare that, but from my knowledge of the way the books are kept, after the services are made, each billing period the amounts collected are prorated by month, so the monthly statement at the end of each month only shows the proportions that have accrued at that time.

Commissioner Osborne—One-sixth.

Witness—That is true, I know.

Commissioner Osborne—Can't you tell from looking at the figure for the year's service what is your annual unmetered service? Have you got that anywhere?

Witness—I can give you a comparison of last year's unmetered service of the Elizabethtown Company alone.

Commissioner Osborne—That will not help here because this is a combined figure.

Witness—The figures taken in the comparison would show how close they were together, sir.

Commissioner Osborne—Yes; if it was for the combined companies, but you say it is only the Elizabethtown you can give.

Witness—For the same period I can give the Elizabethtown Company in comparison last year.

Commissioner Osborne—But this combines the Elizabethtown and subsidiary companies. A comparison with the same period of only one of the group of companies would not help us very much.

Witness—With the comparison this year of that same company?

Commissioner Osborne—You are not comparing that; you are comparing an entirely different figure. It ought to be very easy to ascertain that. Is your bookkeeper here?

Witness—No, he is not here, sir.

Q. (By Mr. Hague.) Don't you know whether that is prorated or not?

A. That is pro rata; I am not willing to swear to it though.

Commissioner Osborne—If it is, you are willing to say so, and that is the end of it.

Mr. Hague—I would like to have a more detailed statement than this.

Witness—I will furnish him with a more detailed statement.

Commissioner Osborne—This statement says unmetered service for eleven months. What more detail can you get than that? If you can suggest what you mean by a more detailed statement.

Mr. Hague—As to how it is made.

Commissioner Osborne—The only way we can do that is to get the witness on the stand who made that up.

Mr. Hague—I might ask a further question while they are looking that up. When does the metered service cover, Captain?

Commissioner Osborne—Does it cover, as the title indicates, the period of eleven months ending November 30th, 1921?

Q. (By Mr. Hague.) Were all the meters read as of November 30th, 1921?

A. No, they were not.

Q. Then this is not as far as that item is concerned, $359,138.56 metered service, it is not as of that date for all the metered service, is it?

A. No.

Q. What is it, is it for less time or more time or an average period?

Mr. Hill—On the eleven months of 1921 the combined unmetered service is $234,716.09 and for the year 1920 similar figures, $244,765.16 for the twelve months.

Commissioner Osborne—For the twelve months.

Mr. Hill—Yes, for the twelve months.

Commissioner Osborne—Now, we have run into another snag on the metered service. Apparently the witness does not know.

Mr. Hague—Did you answer that last question?

Commissioner Osborne—He has not been able to answer it.

Q. What is the item of "less allowances and refunds," what does that mean?

A. Those are discounts that the Elizabethtown Company gives for prompt payment.

Q. Ten per cent.?

A. Ten per cent., yes.

Q. Is that the exact amount or is it an estimated amount?

A. That is the exact amount because that is all due.

Q. How can you figure the exact amount when those bills are payable in October and April—it covers two months from the first of October to the 30th of November—how can you figure the discount on that which is not paid?

A. The discount is all due, past due. You cannot get a discount now.

Commissioner Osborne—All discounts that are allowable have been deducted.

Witness—Yes, sir; the discount period has expired.

Commissioner Osborne—Therefore it is an amount which is ascertained with certainty.

Witness—The discount period has expired.

Q. (By Mr. Hague.) Does it contain two full discount periods?

A. Yes, sir.

Q. Then it is too much for eleven months, isn't it?

A. I don't see that, no. It is the discount that has been paid for eleven months or for the year or eight months.

Q. It covers two complete periods of six months, doesn't it?

A. No, it covers two billing periods. They pay the water rent six months in advance and if they do they are allowed a discount, are they not?

Commissioner Osborne—They do not pay the metered service six months in advance.

Mr. Hague—I am talking about the flat rate. Does that include the discount for metered service too?

Witness—There is no discount for the metered service.

Q. (By Mr. Hague.) Then it applies only to the flat rates. The discount is ten per cent., is it not?

Commissioner Osborne—He said that. What are the billing periods?

Mr. Hague—April 1st and October 1st.

Commissioner Osborne—Within what time must a bill be paid in order to obtain the advantage of the discount.

Witness—Thirty days.

Commissioner Osborne—How many?

Witness—Thirty days.

Mr. Hague—It covers the full period of twelve months and the statement is made up as of eleven months, is it not? Is there any larger amount of discount than ten per cent., Captain?

Witness—Not that I know of, no.

Mr. Hague—The unmetered service you had $234,716.09; ten per cent. of that would be $23,471, would it not, instead of $28,008? Some do not pay and do not receive the discount.

Commissioner Osborne—You see that unmetered service is only for eleven months and the discount he receives may be on the full twelve months period.

Mr. Hague—Then it is wrong because it has been allowed on the twelve months, and this statement is made up only for eleven months.

Commissioner Osborne—It shows the financial situation at a certain period ending such and such a time. If they got for discount, if they received in their territory twenty-eight thousand dollars for discount, of course they would have to show it on this statement, because they have got it.

Mr. Hague—How can that be arrived at, the revenue for the full year for this purpose, if it does not cover the full year, in other words the basis is not right?

Commissioner Osborne—That may be. It may be an allowance should be made for that other month on the discounts, if you are just making up the balance sheet, but if you are showing the actual allowance that they made, it would be proper to put it in here. It depends upon the theory on which you make up your statement, it seems to me.

Mr. Hague—Yes, but that will make a difference, if it was put in for a greater period, it would make a difference in the operating revenue. I think we are entitled to a more detailed statement.

Commissioner Osborne—In other words you think the discount should be approximately one-twelfth less than it is, because the period indicated is only for the period of eleven months operation, while the discounts shown cover a period of twelve months. That is your point, isn't it?

Mr. Hague—I think we are entitled to a more detailed statement on that.

Commissioner Osborne—I think you are entitled to have it explained, of course. Now, Mr. Wherry, how are you going to meet this situation?

Q. (By Mr. Wherry.) Do you know whether or not that twenty-eight thousand dollars is what was received or whether that is on an actual basis too?

A. I don't know but I can find that all out.

Q. (By Commissioner Osborne.) It is what they allowed the customers off their bill, isn't it?

A. That is what they allowed their customers for prepayment.

Q. (By Commissioner Osborne.) For a period of twelve months which the bills cover. That is a matter of adjustment, I suppose, by an accountant.

A. We can submit a statement explaining exactly how these were made up.

Commissioner Osborne—Wouldn't it be better to submit a witness?

Mr. Hague—If you add one-twelfth of that two hundred and thirty-four thousand dollars, the first item, it would only make $254,000, and ten per cent. of that would only be $25,000, for the ten per cent. discount, so there is something radically wrong in those figures.

Mr. Wherry—This covers allowances where there are leakages and things of that sort, doesn't it, Captain Kean, claims against the company on bills?

Witness—All adjustments of that sort.

Mr. Wherry—That is not merely the discount; it is the adjustment of claims for leakages.

Commissioner Osborne—There are other items in there besides the discount.

Mr. Wherry—Yes. We can make a complete statement of what there is in that and furnish it, and furnish a witness.

Commissioner Osborne—I am wondering whether you cannot do that without making another hearing necessary.

Witness—That is what we are trying to do.

Commissioner Osborne—I do not mean now. You cannot do it now because you haven't the data here and haven't the man who made up the figures here. This witness does not know because he did not make them up. He probably told the bookkeeper to get up a statement and this is the result. You either have to produce the bookkeeper or arrange with Mr. Hague.

Where is the main office, where are the books?

Witness—Elizabeth.

Commissioner Osborne—Mr. Hague, it is right in your home town. Couldn't you go there and arrange with Mr. Wherry to get out a detailed statement?

Mr. Hague—I would be glad if Captain Kean would make up a statement, and the probabilities are that it would be such that we would not require any cross-examination on it. I don't know.

Commissioner Osborne—You can go there and talk it over and get the thing explained to you and worked out to your satisfaction.

Mr. Hague—If they would make a detailed statement such as they presented in 1920—

Commissioner Osborne—Do you know what he refers to?

Mr. Wherry—Which one do you refer to?

Commissioner Osborne—I do not want to have another hearing just to explain a sheet of paper which ought to be clear without explanation.

Mr. Wherry—What we have done in other cases where this information was usually asked at the last

minute, we have submitted to the other side an exhibit. Then if they wanted any questions they would usually come and they have gotten that information. We have not had another hearing. If they want another hearing, of course they are entitled to it.

Mr. Hague—If we can get the information, we surely do not want another hearing.

Mr. Wherry—We will get up the statement, but I want to put in the capital additions during last year and the earnings and operating expenses. If it is possible to get it for the twelve months I will do it for twelve months.

Commissioner Osborne—It is so near the end of the year, why can't you get it for the twelve months?

Mr. Wherry—It might take several days to get the postings all finished up, but if I can do it for twelve months, I better do it for twelve months and then there would not be any question about that.

Commissioner Osborne—Wouldn't that be better, Mr. Hague? It will be a few days.

Mr. Hague—Yes; if something comes up we would like to reserve our right to cross-examine.

Commissioner Osborne—They will submit the statement to you and then if there is any information you need, and as for, if they cannot give it to you, go up and look at their books in Elizabeth. It ought to be easy to see whether or not there is any basis for the figures they submit to you; they ought to be able to satisfy you as to the figures they are giving you. Of course if they cannot, if there is a deadlock for any reason, then notify me that you desire to cross-examine. All we have to do now is close the case with that exception, with leave to put in that evidence.

Mr. Wherry—Yes, that is it. I would like to ask one more question.

Mr. Hague—As I understand, Mr. Wherry is to put in some capital expenditures that have been made.

Mr. Wherry—Capital additions.

Mr. Hague—We would like to have the same detailed statement of that, not just the bare figures.

Commissioner Osborne—Yes; all right. The detailed statement of capital additions and operating revenues and income deductions in detail for the year, the current year.

Mr. Hague—And cost of operation.

Commissioner Osborne—This exhibit will be withdrawn by them for the time being.

Mr. Wherry—The postings are not all complete for 1921 and it might take two weeks to get the postings completed and the statement for the full year.

Commissioner Osborne—Very well. How soon will you gentlemen be ready to argue this case, aside from that question of that two weeks.

Mr. Wherry—I suppose we could submit a brief on it.

Commissioner Osborne—I would like to have oral argument, because it is a rather complicated situation, the hearings have been continued over a long period of time with a considerable period between them.

Mr. Wherry—It seems to me better to prepare a brief and argue on the brief.

Commissioner Osborne—That is all right, yes, but I would like to have oral argument.

Mr. Wherry—On that oral argument, will we follow the legal precedent of having Mr. Hague sum up first and I follow?

Commissioner Osborne—Who initiated the proceedings?

Mr. Wherry—We initiated them, the burden of proof is on us.

Commissioner Osborne—You can open and close.

Mr. Wherry—On the oral argument?

Commissioner Osborne—On the oral argument. You can state your position in the opening in the proceedings initiated by you, and Mr. Hague will state his position, and then you can close. You may of course have briefs to submit and argue from at the same time.

Mr. Wherry—It seems to me we will want a brief.

Commissioner Osborne—Yes.

Mr. Wherry—You can get a very much more succinct and connected argument, shorter argument, if we prepare briefs. I can sum it up now.

Commissioner Osborne—I rather assumed, perhaps, that Mr. Hague would want time to examine the testimony and figures before he was ready. Possibly you want to do the same thing. How long will it take you to be ready to argue it, Mr. Hague?

Mr. Hague—After we have received this?

Commissioner Osborne—You do not want to make the argument until you receive that paper?

Mr. Hague—No.

Commissioner Osborne—How long after you receive these additional exhibits will you want to be prepared?

Mr. Hague—Two weeks.

Commissioner Osborne—Two weeks after that?

Mr. Hague—Yes.

Commissioner Osborne—That, you see, will throw it way on to the first of February. If you could prepare your case with the exception of such additional information as you may get on that aspect of it just mentioned, it seems to me we might give you a date earlier than the first of February. How long do you think it will take to argue this matter?

Mr. Hague—For argument? I do not think I would take an hour, more than an hour.

Mr. Wherry—I should think it would take about two hours. I should think we ought to allow that for it.

Commissioner Osborne—Two weeks would be the 15th. Would you be ready by the 19th of January?

Mr. Wherry—I can be ready by the 19th.

Commissioner Osborne—You see you have to get your additional data in his hands in time.

Mr. Hague—I would like a little more time if possible.

Commissioner Osborne—That is pretty close after the two weeks you want to bring your books up to date.

Mr. Wherry—I might give it to them on the eleven months' basis right away in a much shorter time to save

time on the argument. The difference would be very slight.

Commissioner Osborne—Suppose we make it the 25th. Then there will be no question about it.

Mr. Hague—What day does that fall on?

Commissioner Osborne—That is Wednesday. Is that all right, Wednesday, the 25th, here?

Mr. Hague—In the morning about the same time, 10:45?

Commissioner Osborne—Yes, Wednesday, January 25th, at 10:45, Newark.

Mr. Hague—When will we receive this, Mr. Wherry?

Commissioner Osborne—You ought to receive it by the fifteenth.

Mr. Hague—This information the company is to get up.

Mr. Wherry—This new exhibit?

Commissioner Osborne—By the fifteenth. That gives you ten days after you get it.

Mr. Hague—The fifteenth of January?

Commissioner Osborne—Is that satisfactory?

Mr. Wherry—The fifteenth of January and then we have until the twenty-fifth.

Commissioner Osborne—That gives you both ten days after that is gotten out. Is that all right, Mr. Hague?

Mr. Hague—I think so.

Mr. Wherry—That will be the capital additions during the year.

Commissioner Osborne—In detail.

Mr. Wherry—And the revenues and operating expenses?

Commissioner Osborne—In detail. Submit them, if you can submit them, before that date.

Mr. Wherry—I will do it as soon as I can.

Commissioner Osborne—So he can have a chance to examine them.

If you object to the form you will have to notify them immediately, because you want them in ten days.

Mr. Hague—I will.

(Adjourned until Wednesday, January 25th, at 10:45, at Kinney Bldg., Newark, N. J.)

BOARD OF PUBLIC UTILITY COMMISSIONERS,

NEWARK, N. J., WEDNESDAY, MARCH 29, 1922.

Application, Elizabethtown Water Company, et al., for an order fixing an effective date of the schedule of rates prescribed by Board's report dated March 15th, 1922.

Before the following Commissioners:
Harry V. Osborne, Esq., President.
J. F. Autenreith, Esq.
P. Betts, Esq., Chief Inspector.
Thomas Brown, Esq., Counsel.

For Elizabethtown Water Company et al. appears,
W. M. Wherry, Esq.

For City of Elizabeth appears,
Joseph T. Hague, Esq.

For Borough of Dunellen appears,
R. P. F. Von Minden, Esq.

Mr. Wherry—May it please the Commission, I would like to call the facts in this matter to the Commission's attention before taking up what we have asked for. It is a year ago in March, this month, that the company filed this new schedule of rates. This schedule simply increased the rates uniformly. It did not make any changes among the different classes of consumers of the company. It left the old rate, as far as the burden of who bore it, who paid for the cost, unchanged. But the contention of the company was, the rate for insufficient

and must be increased and, therefore, they filed a new schedule increasing their rates uniformly.

Commissioner Osborne—What percentage?

Mr. Wherry—The percentage was a fifty per cent. increase.

Commissioner Osborne—When was this filed?

Mr. Wherry—March, 1921, and it was suspended and it did not go into effect until October first, 1921, and has been effective since October first, 1921. Meanwhile the hearings were held and testimony taken. On the hearings the company not only gave the Commission full information in regard to cost, but also gave them information in regard to the distribution of cost among the different classes of consumers.

Now, the report that was handed down by the Board determined that the rates, the old rates were insufficient and the company was entitled to an increase in revenue. It fixed the valuation of the property and the fair return which the company was entitled to receive, net, estimated the operating expenses and the operating deductions and fixed a rate.

The report also decided that the rate, which had practically been in effect since 1854, was unjust as between different classes of consumers and that the municipalities were not bearing a fair share of the burden of the costs and that the ratio of the costs should be that the municipalities should bear one-eighth of the total cost and that the other consumers, domestic and commercial, seven-eighths of those costs which would be a change and shifting of the burden from what had existed theretofore. This was in accordance with the Board's duty and in accordance with the power that the Board had.

Now, the Board did not in that report state the date when these rates should go into effect. The statute provides that any order of the Board continuing a service or rate at the old rate shall become effective immediately, but all other orders become effective on a date specified therein, which shall be at least twenty days after the date of said order. Now, this is a change of the existing

rate. The existing rate was filed last March and has been in effect since October. The Board is changing that by changing the classification of the rate and putting one-eighth of the rate—putting an increased burden on the municipalities for their public charges. So that the order must be entered by the Board specifying the effective date when that change shall go into effect. That change in the classification of the rate, that cannot be made effective as of October, 1921, because the Board's order must be after hearing, and these hearings didn't end until recently. Then the statute says it must be at least twenty days after the conclusion of hearings; so that that change in the rate schedule can not be effective for twenty days after the date of the order and the order must be dated at least after completion of the hearing.

My next contention is that where there is a change which shifts the burden of the costs from one class of consumers to another, it must be made substantially of the same date so as not to be discriminatory as between the different classes of consumers; that you cannot change the rate by reducing the rate to the domestic consumers in April and then make an increase in the rates that is going to take care of that loss of revenue effective nine months later by an increase to the public consumers.

So I have asked the Board to make an order—I am going to present this morning an order—that the rates prescribed in the report shall be imposed, specified and followed by the company beginning April 5th, 1922, which is twenty days after the report of the Board, but that the company shall not collect those prior charges until after January 1st, 1923, in order to give the municipalities an opportunity to provide for them in their budget, which is the way I interpret the legal effect of the Board's report.

Commissioner Bacharach—How much do the municipal charges amount to in dollars and cents; approximately?

Mr. Wherry—It would be a hundred and four thousand dollars a year.

Commissioner Bacharach—You are willing to lose, on that basis, about four thousand dollars.

Mr. Wherry—You mean the interest?

Commissioner Bacharach—Yes.

Mr. Wherry—Yes. I don't see—

Commissioner Bacharach—Does not that work an unfair advantage to the private consumers by that method?

Mr. Wherry—If this is more or less working a disadvantage to the private consumers, that interest should be taken—rather, the rate go into effect to-day and the bills rendered to the municipalities.

Commissioner Bacharach—There is no reason why the municipalities shouldn't pay.

Mr. Wherry—There is no reason why the municipalities shouldn't pay, why they shouldn't pay now, that I know of. There needn't be any provision in the Board's order postponing the collection of it, but I am trying to interpret the Board's report.

Commissioner Bacharach—But there is no object in not postponing the collection if the consumers afterward, at least, get the benefit of this four thousand dollars, approximately.

Mr. Wherry—Exactly. The bills bear interest, if the collection is postponed.

Commissioner Osborne—Mr. Hague, do you wish to be heard?

Mr. Hague—The order, as I recall, made by the Board, stated the increase to the municipalities was to go into effect January 1st, 1923. I assume that that order meant the rates were to be charged from that date. Elizabeth contends that the order, as far as it applies to the municipality, should not go into effect until 1923, or at least at a time that the Elizabethtown Water Company is furnishing adequate fire protection to the City of Elizabeth. All the evidence in this case, it was contended by the municipality, and it was admitted by the

water company they were not giving that service. Elizabeth contends this increase in the rate to the municipality from something like eight thousand dollars to something like a hundred and four thousand dollars, for the service they are giving, which is admittedly not proper for fire purposes, is absolutely wrong. The Board's order, as far as the municipality, should be deferred until they are giving that service.

All through the report it is shown that there are cement mains which will not carry the pressure for fire purposes. As far as the amount of money that the company is getting for their service, there are some mistakes in the report and we will present those to the Board within the next week. I spoke to Senator Brown about it this morning, in which I think that there has been an error or at least one hundred thousand dollars.

Commissioner Osborne—What is your position with regard to the question of discrimination?

Mr. Hague—I really haven't given it any thought.

Commissioner Osborne—Isn't it a discrimination against the consumers not to charge the city for its fire protection a proper proportion of the expense of supplying the water?

Mr. Hague—Well, I really haven't given that the thought—

Commissioner Osborne—I suppose you concede that it is so.

Mr. Hague—I suppose so; I wouldn't want to say off-hand.

Commissioner Osborne—Then that leads to the next query on the same subject: Isn't it discrimination to the private consumers to postpone the collection from the city of its adequate proportion of the cost of supplying of water, or isn't it a discrimination against the consumers, the private consumers, to say they shall continue to pay from now until January 1st, 1923, more than their share of the cost?

Mr. Hague—You mean, at the rate that the company has put into effect?

Commissioner Osborne—No, the new rate.

Mr. Hague—They will have to pay that rate afterwards.

Commissioner Osborne—In other words, shouldn't the fire protection rate, the rate to the municipalities for fire service, go into effect at the same time that the rate to the private consumers goes into effect, that is, the rate fixed by the Board, which is less than the rate filed by the company.

Mr. Hague—I think that would be so, assuming both the municipality and the private consumer was deriving the same service. The private consumers, in a number of instances, are receiving proper service, but the municipality is not. And that is all through the case, it is conceded by the company they are not. In the case of a large conflagration in the City of Elizabeth we would not have sufficient water service to take care of it.

Commissioner Osborne—Of course, you are acting in somewhat of a dual capacity; in representing the community you represent the users of water as well as the municipality.

Mr. Hague—I do.

Commissioner Osborne—In any event, the users of water, through taxation, pay the fire charge. It is merely a question of the equitable distribution of the method of collections or the cost of water to the entire community for all service.

Mr. Hague—If they pay the rate fixed by the Board, and then in addition pay in their taxes the amount fixed by the Board as against the municipality, they would be paying a double burden.

Commissioner Osborne—The Board fixed those rates to the private consumers on the theory and taking into consideration the fact that the fire service should be increased. If the fire service isn't increased then the private consumer has to pay more in order to obtain the income found to be necessary.

Mr. Hague—True. The Board has indicated, as I understand it, has adopted the same rule in regard to fire service that was adopted in the Hackensack water

case, in regard to Elizabeth, but in regard to the Hackensack case they were receiving, I presume, proper fire protection as far as their water pressure is concerned; they are not receiving it here.

Commissioner Osborne—Passing that for a moment. You don't contend that the municipality isn't able to pay this, do you?

Mr. Hague—I contend at the present time that the municipality to raise that money, at the present time, it would have to be done, I suppose, by the issuance of emergency notes.

Commissioner Osborne—Would you rather pay at this time or defer payment until January?

Mr. Hague—I, at this time, am requesting the Board not to put that rate into effect as far as the municipality is concerned.

Commissioner Osborne—Assuming it is put into effect, I am now inquiring as to the time of payment. If it is put into effect should it be paid now rather than payment be deferred until next January?

Mr. Hague—I don't know. I am not prepared to answer that question. That would probably be a matter for the financial officers of the City of Elizabeth to answer. On questions of service I contend it is assumed when rates are fixed that it is upon the furnishing of adequate service; which is not being furnished.

Mr. Wherry—On the question of service, my contention is the Board must fix the rate in reference to the service as a whole problem, service as a whole and with reference to the service now being given, and the further object of fixing the rate is to enable the company to increase that service. If you are going to order an increase in service and at the same time take away the means of increasing the service (it was all thrashed out in the case and all before the Board) you are going around in a circle and defeating the very purpose the municipality has.

Commissioner Bacharach—You said something about the fact the consumer was paying anyhow because he is going to be taxed for it.

Mr. Hague—Judge Osborne stated that in the last analysis the consumer would pay, it coming back in the taxes, what the city would have to pay.

Commissioner Bacharach—I thought you said that.

Mr. Hague—Judge Osborne said it first and I concurred in it.

Commissioner Bacharach—But a man who owns a vacant lot, you know, he is paying water bills on fire protection while a man who owns a house and is building up this territory he is getting out of part of the burden, but justly so; he should get out of it.

Mr. Hague—That is true. In the report filed by the Utility Board they mention the fact about the company substituting new mains for these cement mains which are not capable of carrying a proper pressure for fire protection. The report bears right on that very subject.

Commissioner Bacharach—Don't they require money to do that?

Mr. Hague—Surely they require money.

Commissioner Bacharach—How will they get the money if they haven't the rate?

Mr. Hague—It is included in their valuation upon which these rates are based.

Commissioner Osborne—What is included in their valuation?

Mr. Hague—The substitution of these cement mains by modern mains. There was no depreciation—

Commissioner Osborne—It takes time to do that.

Mr. Hague—True, it takes time and if the company puts them in as fast as possible then we are ready to meet the rate when we get the service, but I respectfully contend that we shouldn't be asked to pay the rate when we are not getting the service.

Commissioner Osborne—The Board took into consideration when fixing the rate, which was less than the rate filed by the company, the character of the service; that was considered as part of the case; it was in the evidence; it was taken into consideration in fixing the rates which were fixed. Now, if after a reasonable time

to make the improvements necessary to give you the service which you think you are entitled to, if those improvements are not made and you don't get that service, then you will be in a position to come in and ask the Board to require the company to furnish adequate service.

Mr. Hague—Isn't that putting the cart before the horse, your Honor? Shouldn't the company furnish service before they are paid the money?

Commissioner Osborne—You see, as I have indicated, the rate as fixed by the Board contemplated the service which is being rendered, contemplates compensation for the service which is being rendered.

Mr. Wherry—I may say to the Board, we are proceeding with the meter changes as rapidly as the Board indicated. It will be entirely metered in the time indicated, and also with the substitution of mains.

Mr. Hague—The metering of the service won't remedy the condition I spoke of.

Commissioner Osborne—The condition you spoke of relates to the character of the mains.

Mr. Hague—Yes, and the pressure of the water for fire purposes. We are asked to pay about a hundred thousand dollars more money than we were paying previously.

Commissioner Osborne—You have just indicated a moment ago there was an error in the report on certain figures.

Mr. Hague—Yes.

Commissioner Osborne—Will they have any relation to this question?

Mr. Hague—We contend there were some errors in the report which we think will make a difference of nearly one hundred thousand dollars.

Commissioner Osborne—And should be reflected in the rates?

Mr. Hague—Yes, sir. We will call that to your attention within a very short time. We are working on it now.

Commissioner Osborne—Then don't you think, if you are going to do that, you should give notice to the other side of such an application.

Mr. Hague—Yes. I haven't got that in shape right now.

Commissioner Osborne—How soon will you get it in shape?

Mr. Hague—Probably within the next week; within a week.

Commissioner Osborne—You see, if this rate is going into effect, it ought to go into effect now, because we are right in the period of transition from one quarter to another, when meters are being read and bills sent out.

Mr. Hague—Yes. Possibly we could arrange on an earlier date, if Mr. Wherry would be willing to waive notice of it; I could get in touch with him just as soon as we are able and get an early date.

Commissioner Osborne—Is there any objection to that?

Mr. Hague—I am perfectly willing to speed the matter up as quickly as possible.

Mr. Wherry—The question is, what are we going to do with our present bills which go out April 1st, which we assumed were to go out at the rate fixed by the Board. If that rate is to go into effect April 1st it won't go out until another quarter unless there is an intermediate billing period. As to the flat rate customers it wouldn't go into effect for six months, that would postpone it until October. You can postpone the whole thing until October; I have figured that out.

Commissioner Osborne—Would you prefer the whole matter be postponed until October?

Mr. Hague—No.

Commissioner Osborne—That is to say, to have the new rate postponed until October.

Mr. Hague—I can't see why they have to hold over that long the billing of this—

Commissioner Osborne—It is only the practical matter of sending out the bills and reading the meters.

Mr. Hague—The bills don't need necessarily to be sent out the first.

Commissioner Osborne—The meters have been read, I understand, in accordance with the usual custom of the water company in reading meters, preparatory to sending out bills at a fixed date.

Mr. Hague—The reading of meters wouldn't conflict with this proceeding. They could read the meters, but as to the rate to be—

Commissioner Osborne—They are entitled to have the money to run their business. If you postpone this, if you drag it along they wouldn't have the money to carry on their business.

Mr. Hague—I am only mentioning two or three days, a matter of two or three days woudn't interfere with sending out bills. It wouldn't interfere with reading of meters and withhold sending out the bills until this is disposed of. I want the Board to fix as early a date right now as you can; a week from now or six days.

Mr. Wherry—A week, that means we are passed the ordinary billing date. The Board itself knows what effect that has on customers.

Commissioner Osborne—That is particularly true at this time of the year when large numbers of people are moving, in fact, may leave the community entirely.

Mr. Hague—There aren't very many people moving that own their own houses.

Commissioner Osborne—When did you first discover this alleged error?

Mr. Hague—I only received a copy of the report a few days ago; a very short while ago; I don't remember the exact date.

Commissioner Osborne—It must have been several days ago.

Mr. Hague—It may be a week ago. It was a case of going over and checking it up.

Commissioner Osborne—When was it filed?

Mr. Wherry—The twenty-second, wasn't it?

Mr. Barber—It went out a couple of days after it was filed.

Mr. Wherry—The twenty-second or twenty-fourth.

Mr. Hague—That was about the time, the twenty-fourth I received it.

Commissioner Osborne—We will take this into conference and decide the matter later in the day.

Mr. Wherry—If it pleases the Commission, there is one other matter in connection with that I think I ought to bring out, because the newspapers had some discussion as to whether the company ought to make return to the consumers of what they allege was the excess collected since October 1st. The only way I know of in which you can test whether there has been an excess collected since October 1st, between October 1st and April 1st is by determining what the gross revenue which would have been received by the company if the rates which the Commission had prescribed had gone into effect last October and the gross revenues which we had received under our rates. That would mean there would have been an increase of substantially twenty-eight and one-half per cent. to your domestic and commercial consumers and fifty-two thousand dollars received from your fire charges. I figured that out at the old rate; there would have been collected three hundred and nineteen thousand dollars from commercial and domestic consumers and you add this twenty-eight and a half per cent. to that and it brings it $410,874, approximately with fifty-two thousand dollars for fire charges, would have been a matter of $462,874 from the rate, gross from the rate fixed by the Board. Whereas the company's collections at its old rate would have been $479,620. There is a difference there of seventeen thousand dollars, which might vary, might be taken up during the next quarter. When you consider the rate was suspended for a whole six months' period during 1921, during which we didn't get a sufficient return, it doesn't seem to me there is any ground for any reparation. The only thing you can do is to treat the situation as it actually, practically exists. If there was a

large difference there, the practical thing could be worked out; the company would be willing to work it out.

There is another way you might test it, in testing the net return, whether the company would get a greater net return under the rate which it has selected than that prescribed by the Board. The difference in figures there is a little bit different, but it doesn't vary very much.

Commissioner Osborne—There has been no suggestion—

Mr. Wherry—There has been no suggestion except in the newspapers. The only reason I take it up is as long as the newspapers had discussed it, I thought there might be some consumers of the company would have an idea there was a great difference, a great injustice done to them by reason of the fact there had been these hearings; whereas, as a matter of fact they have really gotten their water for less than they should have paid for it during the whole of 1921 up to April, 1922.

Commissioner Osborne—We will take this matter into consideration. You say you have a form of order? Will you submit a copy of that to Mr. Hague? If you have any objections to the form of the order you can indicate them, after you have looked at it.

Mr. Hague—Do I understand the Board will decide this case now and the question whether they will put in this—

Commissioner Osborne—We will decide whether we will decide it now, and if we decide it now, whether to give you an opportunity later to present your objections, which, of course, you will have, whether we postpone the settlement of this order, because of your allegation of discrepancies. We will determine that after conference.

Mr. Hague—If the Board decides to fix a day, can it not be fixed at that time what day you will hear it, the time you dispose of this matter?

Commissioner Osborne—Yes, of course, we will dispose of the whole matter later in the day after conference.

Mr. Wherry—If we are going to have a hearing on this discrepancy, I think before that hearing he ought to let me know what he thinks the discrepancy is.

Commissioner Osborne—Yes, I understood you were going to confer with him now on it.

Mr. Hague—Yes; oh, I will submit a statement or the figures to Mr. Wherry before the hearing.

Mr. Von Minden—I would like to enter an appearance for Dunellen in this case.

Commissioner Osborne—Have you anything to say in regard to the proposition of Mr. Wherry?

Mr. Von Minden—Nothing further than it would seem a hardship to the municipality to enforce your order at the present time. Of course, we can meet it by emergency notes, but we would rather meet it by taxation at the end of the year and in the budget.

Commissioner Osborne—You would rather have a postponement?

Mr. Von Minden—Postponed, yes.

Commissioner Osborne—You don't object to the discrepancy between the rate charged the private consumer and the municipality being properly adjusted?

Mr. Von Minden—No; no, I don't.

Commissioner Osborne—You think that ought to be done?

Mr. Von Minden—Yes.

Mr. Hague—I don't think, your Honor, the fire question arises in the municipality that Mr. Von Minden represents.

Commissioner Osborne—Don't they have fire protection?

Mr. Hague—The same complaint don't seem to exist; it only exists in Elizabeth. As far as the Raritan, Watchung and the other companies are concerned, I think the fire protection is adequate.

Mr. Von Minden—If the Commission please, as far as that is concerned, I think possibly we have the same objection. I lost a house myself simply by the water

pressure being absolutely nil. But that has been a couple of years ago and I have nothing to say on that at the present time.

(Application taken to conference.)

BOARD OF PUBLIC UTILITY COMMISSIONERS.

NEWARK, N. J., Wednesday, April 5th, 1922.

Allegation of Error in the Board's Report of March 15th, fixing rates for the Elizabethtown Water Company to charge.

Before the following commissioners: Harry V. Osborne. Esq., President; Harry Bacharach, Esq.; Joseph F. Autenreith, Esq.

For the Elizabethtown Water Company, appears W. M. Wherry, Esq.

For the City of Elizabeth, appears Joseph T. Hague, Esq.

Commissioner Osborne—Mr. Hague is the moving party?

Mr. Wherry—Yes.

Mr. Hague—If your Honor please, Mr. Fuller has gone over this and I will call him to the stand and let him explain the discrepancy in this report he has discovered. Mr. Fuller, will you take the stand?

Mr. Wherry—May it please the Board, are we going to have a reopening of this case? I thought this was a motion as to whether they would or would not reopen this case.

Commissioner Osborne—We don't know yet. Will you state what your contention is, Mr. Hague Then we will see whether it is necessary to take any testimony.

Mr. Hague—In the report there are some of the items which have not been taken into consideration, in our

opinion. Mr. Fuller has gone over those and he, of course, is technical, and he is in a position to point them out to the Board at this time.

Commissioner Osborne—Can't you state what your contention is without turning a witness on the stand and turning a witness loose to testify to something, without knowing what he is going to testify to, whether it is material or not, or whether we even want to hear it?

Mr. Hague—He is going to testify, one of the things he is going to testify to and point out to the Board, that there was no consideration taken by the Board or by the Board's engineer of the saving of water by the installation of meters, no allowance made for that.

Commissioner Osborne—How does he know?

Mr. Hague—I beg your pardon?

Commissioner Osborne—How does he know whether there was any consideration given to it or not?

Mr. Hague—Well, you used the same expense last year as you did in your figures when it was not all metered.

Commissioner Osborne—Well, suppose we did; how is he in a position to go on the witness stand and swear we did not consider something and reach that conclusion deliberately?

Mr. Hague—As I understand it, it is shown on the face of the report, your Honor.

Commissioner Osborne—Where is it? Point it out.

Mr. Hague—Your Honor, instead of calling Mr. Fuller to the witness stand, I would like permission for Mr. Fuller to point out the points in the report.

Mr. Fuller—If the Commission please, the rates as put into effect for the Elizabethtown Water Company call for something over ninety-six thousand dollars' increase in the fire charges. The rates put into effect for the metered consumers ran from 26.7 per cent. to 28.5 per cent. The rates put into effect for the flat-rate consumers run from twenty-five per cent. up to one hundred and twenty per cent. for various things, averaging at least thirty per cent. I think it is safe to say on that

showing that the rates to private consumers metered and unmetered were at least twenty-eight per cent. as an average. The Board's report shows that 30.5 per cent. of the total increase in the Elizabethtown Water Company is sufficient, so that these rates if put into effect on the existing rates to-day would produce more money than the Board says the company requires. The reason for that is clear. It is because the Commission assumed that meters would be put in, and in making the assumption that meters would be put in, no reduction was made for the large amount of water that is going to be saved by the installation of those meters. That is clear from the report, because the same table which used the operating expenses for 1920 and 1921 is carried straight through to the final table E, where the condition of all metered consumption is considered. I think it is a well known fact that the installation of meters in a water company, where all water is expensive, that taken from the ground is expensive, that pumped and filtered at the Elizabethtown station is expensive, and the rest of it is purchased at from forty to eighty or ninety dollars per million, so that every bit of water that is saved by these meters is a direct saving to the company, and yet no reduction is made in the operating expenses. The testimony in the case—I testified personally that there would be a saving by the installation of meters which would enable the company to get along with the present rates, although they would need an increase of seven or eight per cent. if they were not metered. Mr. Hill testified in the case that where water was expensive, that is economy for the company to put in meters. And yet the result of considering all the system metered is to raise the rates more than it would be if you took the present basis flat and metered charges, so I say there must be some error in considering the matter.

Commissioner Osborne—Isn't what you say in substance that the Board in its prognosis as to the future reached a different conclusion than you might reach?

Mr. Fuller—I say it has reached an impossible conclusion in that case.

Commissioner Osborne—How can you tell until the future has eventuated and become a fact?

Mr. Fuller—It would be no reason to raise the unmetered consumers because the metered consumers were too low.

Commissioner Osborne—What?

Mr. Fuller—There would be no reason for raising the unmetered consumers because the revenue is going to be less when they are metered.

Commissioner Osborne—The reason in this case for metering is to conserve water.

Mr. Fuller—To conserve water and save money, yes, sir.

Commissioner Osborne—Primarily to conserve water. The water supply is claimed to be insufficient, and, as I understand the history of the case, I was not sitting when that question first came up—the real reason was to conserve water, and that was the urgency of the matter which led the Board to make an order which was subsequently set aside by the Supreme Court on the ground that the Board did not have power to compel the company to put in meters if the company said it did not have money to do it with. We could not control that situation, of course, after that decision was rendered.

Mr. Fuller—Well, sir, in that case, page seventy-one of the testimony, Colonel Betts of the Commission testified that the saving in water to the Elizabethtown Company with meters installed would be nine million gallons per day. Nine million gallons per day at the average figure amounts to one hundred and fifty or one hundred and sixty thousand dollars per year. I think that alone—

Commissioner Osborne—That is on the basis of rates then existing.

Mr. Fuller—That is on the rates then existing, yes, sir.

Commissioner Osborne—We will hear Mr. Wherry, if you have finished we will hear Mr. Wherry.

Mr. Wherry—May it please the Commission, it seems to me that this amounts to a request for a reopening of the whole case and the consideration that the Commission has given it, simply because the municipalities differ from the Commission as to the inference to be drawn from the testimony which is in the record. Now, the Commission had before it this problem, to determine what would be the probable operating expenses of this company, taxes, depreciation and other operating deductions. They took this method which has been used in case after case, they took the average for the past two years as being a fair measure of both, and to that they added a net return which they determined would be a fair return and that gave you the gross revenue to be derived. Now it is true that the operating expenses and operating deductions may go down to some extent. It is also true they may go up. You are making a prophecy. It is certain that taxes are going to go up. It is certain that the depreciation allowed may be too low, will be as soon as we put in some additions here in the plant. The depreciation allowance, there was a conflict of evidence in regard to, there was a conflict in regard to the taxes, but taking those as a whole, the Commission certainly got at a fair measure of those values. They come in here and say this system is in process of transition, you are metering it. We are, we are metering as fast as we can. They say, that is going to reduce your operating expenses and going to change this result. How can you tell until you try it out? That is the only way we know to test it, is by trying it out. We believe that the evidence in the case showed that whatever you may save in the way of decrease in expenses in one line you are going to increase by metering in another. You have additional bills to be made up, additional expenses there, you have additional capital as you meter, additional capital additions that are not taken care of in detail.

Commissioner Osborne—What is your experience with customers you have already metered, do you sell less water?

Mr. Wherry—As soon as the order of the Commission directing the company to meter the system came down as a means of saving and conserving the water, they started in to meter the biggest consumers right away so that you would have to plot a curve in order to determine what your saving was, as you would save more from different classes of consumers. The best that I can say is that the average is about—well our experience is that out of 1,204,500,000 gallons a year, we save 3,300,000 gallons.

Commissioner Osborne—What effect would that have on your revenue?

Mr. Wherry—We do not believe it is going to have any effect because the great savings have already reflected in these operating expenses that the Commission has alrady used as its measure.

Commissioner Osborne—It seems to me the only way we can determine this question is by a trial period. The company might be directed to file periodic statements which would indicate the situation.

Mr. Fuller—Those are not the only points.

Commissioner Osborne—I cannot hear you.

Mr. Fuller—Those are not the only points to be brought out. The Commission has not taken into account certain revenues which the company did receive last year and which it will receive next year, in computing the necessary increase on the basis of all consumers being metered.

Commissioner Osborne—How do you know?

Mr. Fuller—Because they are not included in the tables. They are included in the report of the company.

Commissioner Osborne—How do you know they were not considered and purposely rejected?

Mr. Fuller—I assume, sir, that the revenues for 1920 are the same that are in the annual reports and those revenues of 1920 are not included in this table.

Commissioner Osborne—Will you indicate particularly what you have in mind, so we may examine it?

Mr. Fuller—Yes, sir. In table E of the report there is no inclusion of miscellaneous water operating revenues.

Commissioner Bacharach—Page E, of the Commission's report.

Mr. Fuller—Table E.

Commissioner Bacharach—Of the Commission's report.

Mr. Fuller—Of the Commission's report, yes, sir, there is no inclusion of the water operating revenues and of other miscellaneous operating revenues.

Commissioner Osborne—How much do they amount to?

Mr. Fuller—It amounts altogether to something like ten thousand dollars per annum.

Commissioner Osborne—Ten thousand dollars?

Mr. Fuller—Ten thousand dollars per annum.

Commissioner Osborne—That would not have any effect on the situation, would it?

Mr. Fuller—It has the effect of ten thousand dollars per year to the Elizabethtown Water Company and the consumers, yes, sir, that is one of the items.

Commissioner Osborne—Reflected in how many million gallons, what would that mean?

Mr. Wherry—We think it is considered.

Commissioner Osborne—What?

Mr. Wherry—We think it was considered. When I tested it I found it was considered.

Commissioner Osborne—Is there anything further?

Mr. Fuller—The operating expenses used by the Commission are contrary to the testimony in the case. The exhibits and admissions of the company give the operating expenses of the Elizabethtown Water Company, combined with the other three companies as $399,000 and some odd dollars for 1920. The Commission used $408,000. Included in the company's operating expenses was the interest charged the Middlesex Water Company. The Commission included the eighty-nine

thousand dollars as part of the value, eighty-nine thousand dollars being the sum loaned to the Middlesex Water Company, so the Commission allowed for that in the return. Yet the company's own admission for operating expenses for the four joint companies is less that that used by the Commission.

Commissioner Osborne—Where is the admission, in the brief?

Mr. Fuller—That is in their exhibit, in the testimony. They were asked particularly if those expenses, which were gone over by the auditor of Mr. Hill, were correct and they answered, yes.

Commissioner Osborne—We will take this matter into conference.

Mr. Fuller—That makes a difference of fifteen thousand dollars.

Commissioner Osborne—It will be unnecessary to testify. Your statement will take the place of any testimony. Have you anything further?

Mr. Wherry—I don't know what he is talking about when he says "interest of the Middlesex Water Company" because there has not been any such interest paid. As far as we have tested the rate, doing this for the information of the Commission, we tested it as against the actual experience from October 1st to April 1st, as if the rate had gone into effect then to see whether we would get more or less net return for that period and the variation is within two per cent., and that is so close —every time I calculate it I get some little different result and we do not see that that metering situation could possibly change the result here. The only way to try that out is to test it. We may have an increase in taxes, we may have an increase in various other things here that would wipe the whole thing out.

Commissioner Osborne—We will examine these objections at our leisure. We cannot do it now.

Mr. Hague—I want to say a word in reference to the service, renewing the motion I made before as to inadequate service. The Board in its report under the heading of "Adequacy of Service" the latter part of it

says, "The service is not yet what it eventually must be made in order that the residents will have proper use of their facility," clearly showing that the evidence produced on the behalf of the municipality and not denied by the company was the only evidence as to service and the Board in its report admitted that the service is not there.

Commissioner Osborne—Well, the company in the case admitted it, they admitted the service was not what it should be.

Mr. Hague—Further on in the report the question was asked by, I think, Commissioner Bacharach as to how the company was to finance this new substitution of cement mains by the new cast-iron mains and I quote from the report—I have redrafted this, and I have it on page twelve, I don't know whether it is the same page.

Commissioner Osborne—You have recopied it, you mean?

Mr. Hague—I have recopied it. I don't know whether my page is the same page as in the report, but I will read as I have it here, "In lieu of the allowance of any definite sum in the present capital base to cover the added cost for cast-iron mains, the deduction for depreciation will be limited to the amount estimated by the company. If the higher figure found in some of the other estimates both of Hill and of Fuller were to be taken it would be necessary to add definitely to provide for the increased cost of iron over cement." Under the heading of "Rate of Return" in the Board's report.

Commissioner Bacharach—Just wait one minute, I am trying to find that.

Mr. Hague—It will be probably eleven, twelve or thirteen. The Rate of Return. In the opinion of the Board a return on the value fixed above of 7.25 per cent. would enable these companies to furnish safe, proper and adequate service to their customers and attract capital to finance the extensions needed in order that the companies may keep pace with the growing needs of the communities served by them. It clearly

shows that the Board in arriving at this rate which has been fixed in the report had in consideration a rate of return upon the property as if it were in a condition to furnish this safe, adequate and proper service. I respectfully contend that the municipality could not be expected to pay a rate of return on a rate for property based upon an adequate plant, as mentioned in the Board's report and until that time arrived and until they are furnishing that service I respectfully contend that we should not be asked to pay the full rate of return at least as fixed by the Board for the municipality. The question, I think Commissioner Osborne called to my attention the question of whether it would not be discrimination between the private consumer and the municipality—

Commissioner Bacharach—If you are going to reduce the rate of return, how are you going to attract capital to finance it as stated in this report?

Mr. Hague—If it was a new company building a plant—this is cost of reproducing it new. The valuation is supposed to be on the cost of reproducing it new, they would not get a rate of return until they were actually furnishing the service.

Commissioner Osborne—What are you going to do with the Supreme Court which says they cannot be expected to make bricks without straw in this very case?

Mr. Hague—That may be true, but I think—

Commissioner Osborne—How can we conform to the mandate of that tribunal unless we give them a rate which will enable them to do the thing which you say ought to be done, that is to say to raise the capital to make the improvements necessary to give the service that you admittedly should have?

Mr. Hague—I think, your Honor, there are also cases—

Commissioner Osborne—Haven't our hands been tied?

Mr. Hague—That is a problem.

Commissioner Osborne—Yes.

Mr. Hague—There are also cases in the Supreme Court, I think, which hold that the company cannot collect from the consumer unless they are furnishing that service.

Commissioner Osborne—Yes, they seem to have decided the same question both ways. This is in this case, as my colleague just reminds me, that is the reason I am referring to it.

Mr. Hague—You mentioned I think, at the last hearing—

Commissioner Osborne—I would concede the merits of your contention that you ought not to be called upon to pay for something you are not getting, on the basis of the theory that you were getting it.

Mr. Hague—The company was getting a rate of return apparently sufficient to pay the dividends and make extensions as far as they saw fit to go along, on the old rate of return. The rate of return which is allowed by the Board will give them additional capital, additional income and it seems to me that the substitution of these old cement mains is a matter which they would attend to, that they would have them renewed very speedily if they knew that as soon as the service was there they would receive a rate of return for it.

Commissioner Osborne—The Board had the whole situation, including the question of service in mind in fixing these rates.

Mr. Hague—You last Wednesday called my—

Commissioner Osborne—The character of service and the necessity of the company to raise additional capital, it was all fixed with that in mind.

Mr. Hague—At the last hearing, rather last Wednesday when I appeared before the Board you called my attention to the fact that it might possibly be considered discrimination between the private consumer and the municipality if the rate did not go into effect.

Commissioner Osborne—At the same time.

Mr. Hague—At the same time. That would be so, all things being equal, but I do not think it would be considered as discrimination between two different per-

sons or communities, if one was getting the service and the other was not getting the service. I think, except in some particular instances, the majority of the people, private consumers, are receiving the service of water. There are, as appeared in the service case of 1920, a number of houses where they are not able to get water on the third floor for any purpose.

Commissioner Osborne—Occasionally?

Mr. Hague—I beg your pardon.

Commissioner Osborne—Occasionally there have been instances?

Mr. Hague—Very frequently.

Commissioner Osborne—When I say occasionally I am considering as compared with the total number of consumers.

Mr. Hague—If my memory serves me correctly, the people along the line of mains running down to the Singer factory, during th ehours the factory was running, I think that pulled the water, all the water from the faucets on the second and third floors of the houses along there which are supplied from the same main. Outside of that the private consumers are apparently receiving a passable water service, but that does not hold good in the evidence in this case, so far as the city is concerned for fire purposes. If your Honor recalls, the evidence that was produced here by the Chief of the Fire Department, an expert, was that one engine if connected with the main throwing seven hundred and fifty gallons of water a minute was sucking a vacuum, if there were two or three engines coupled there, there would be absolutely no water for fire protection purposes. I might say that if it covered a period of two or three years before those mains were replaced the water company would be receiving about ninety thousand dollars a year more than what they were entitled to.

Commissioner Osborne—Do you remember whether there was any testimony as to how long it will take to replace those mains?

Mr. Wherry—How long it would take?

Commissioner Osborne—How long it would take?

Mr. Wherry—I do not think that is in the case at all, nor the cost of that. It is stated that the company has been replacing those mains.

Commissioner Osborne—Wherever they were found to be worn.

Mr. Wherry—They have been replacing them as rapidly as they can. They started in with a program to replace those mains when they are putting the meters in —that would not be feasible—because the great part of these mains are plenty good enough to carry the pressure but the difficulty is due to not being able to get the water down to that part of it and there is no use replacing that main.

Mr. Hague—The question of the mains in the City of Elizabeth that have been replaced, to my knowledge is on Elizabeth Avenue and East Jersey Street. The city undertook to pave both these streets and the water company put new mains in those streets prior to the paving going in. I don't know of any other large job in the City of Elizabeth in the last three or four years.

If I might be permitted to, we have prepared some tables which we would like to offer to the Board for their consideration.

Mr. Wherry—I object to the case being reopened and additional testimony being taken in.

Commissioner Osborne—This is not testimony.

Mr. Hague—It is for the information of the Board.

Commissioner Osborne—It merely supplements the reasons stated by counsel for the amendment to the Board's report, which we will examine.

Commissioner Bacharach—Would you prefer that the municipality pay an additional rate rather than the private consumer?

Mr. Hague—No.

Commissioner Bacharach—Why not?

Mr. Hague—I didn't quite get your question.

Commissioner Bacharach—If additional money is required, wouldn't you rather have the large part of the

burden placed upon the municipality rather than the private consumer?

Mr. Hague—If the Board decides that the additional amount should be paid, I feel that the municipality should bear its fair share of the burden, its equitable share of the burden, but I respectfully contend that if it is possible and if our point is well taken, that the amount paid by the consumer, the increase allowed by the consumer and the rate of return, or rather the rate to be paid by the municipality should be fixed at a lower sum at this time by the Board until those changes are made. If that is possible I feel that what might be taken from the municipality by reason of the inadequate service should not be charged up to the consumer, that is not my point. If it has got to be charged I want the municipality to pay its share rather than the burden to be put on the consumer, but I feel it is not necessary that the consumer should pay more than the rate fixed by the Board and the municipality's rate should be fixed at some rate lower than the amount fixed by the Board until proper service is being rendered.

Commissioner Osborne—Mr. Wherry, have you withheld sending your bills, pending this hearing?

Mr. Wherry—At the last time the Board sent us a letter and asked to have the bills withheld, and they have been withheld.

Commissioner Osborne—I think this matter will have to be disposed of at once, because owing to the delay it has become rather confusing for all parties, the time of suspension expired, the new rate went into effect, and now here we are right passing the quarter. My own view is that the fire rate should go into effect contemporaneously with the private consumer rate, that that should take effect on April first, as of April first. Some suggestion was made, Mr. Wherry, of your rebating to the customers who were charged an excess over the rate allowed by the law. Are you willing to do that, providing the fire rate is advanced to April first, rebating the difference between what you have collected, the gross

collected by you and the amount you would have collected had the Board's order been in effect three months earlier.

Mr. Wherry—This is what the company is ready to do, to take the period from October first to April first, take the revenue at the rate, fifty per cent. increase, which was the legal rate for that period, check that against the amount it would have received by the rate which the Board had ordered put into effect and send credit slips to the customers who were billed for that period for their proportionate charge. That could be done either by testing it against the gross or the net. What I proposed was that the company should take the net return as the Board fixed as the net return for that period, that is one-half of three hundred and thirty-seven thousand dollars and rebate the difference between that and the net return actually due to them under their legal rate for that period, which would make a credit slip to each customer who got a bill for that period, of some percentage.

Commissioner Osborne—It seems to me you ought to do that, because your company put into effect, contrary to the usual practice of utilities, a rate, pending a hearing before the Board could conclude its efforts and after the expiration of the time, the time limit of the expiration period fixed by law. Unfortunately the law limits the time that we can suspend a rate. That, of course, left you in a position to do that legally and you did it. Therefore, it seems to us that it is an equitable thing to do, to make this rebate, particularly as the fire protection charge is to be made at once, notwithstanding the municipality may be at some inconvenience on that account, although I think there is no reason why they could not take care of it; the payment could be deferred until January of next year if they cannot take care of it. The question then of these objections to the Board's report it seems to me might be met by your filing monthly statements, such as are frequently required of the trial periods, which would enable us to check up our esti-

mates, which the other side complain of as being incorrect. Not monthly, because you do not render monthly bills.

Mr. Wherry—Not monthly; make it six months period.

Commissioner Osborne—The periods which parallel the sending out of your bills.

Mr. Wherry—The flat rates go out on six months period and the others go out on three months period. We can send a quarterly statement. But you really won't be able to test it by a quarterly statement.

Commissioner Osborne—How?

Mr. Wherry—You really won't be able to test it by a quarterly statement.

Commissioner Osborne—Such periods as will enable us to make a test. Then if we find as a matter of fact that our estimates are so grossly in error, the city can make an application to reduce the rates, that is a remedy that is always open to them.

Mr. Wherry—If your Honor please, I would like to say something in regard to putting the rate into effect. I think there is a defect in the law in regard to that.

Commissioner Osborne—So do I.

Mr. Wherry—Because this rate was filed March a year ago, and it was suspended for six months, then the Board could not make the rate retroactive, so that there would have been a whole year between the raising of the question and the adjudication in which the revenue indicated by the Board to which we were entitled, could not be collected, if we did not put the rate into effect. The only way we could give the customers the benefit of the Board's decision and at the same time get the revenue the company was entitled to, was by putting that rate into effect and then making a rebate. At the time we stated to the Board we might impound the difference and rebate such portion of it as represented the excess of a fair return. That is why I say we will take the fair return as the test and rebate to the consumer the difference which will be approximately—it has got to be ex-

pressed in a percentage—and therefore it may be that we will vary a little bit from the exact amount. We are going to treat the consumer perfectly fair. Whether that can go out with these bills or not I am not sure, because the bills ought to go out at once. The credit slip has got to be prepared.

Commissioner Osborne—It will take some time to figure that out.

Mr. Wherry——It will take some time to figure that out and each consumer can then use his credit slip as a payment in payment of his bill.

Commissioner Osborne—The situation we are in here is due to an unfortunate series of circumstances that nobody could control. There was no Board, there was a congestion of business, other cases of great importance came up, and by a legislative mandate we were obliged to give preference, whether we would or not; then it took naturally a considerable time to dispose of this case when we got to it. What we are anxious to do now is to end it somewhere somehow and take a fresh start some other time, if necessary.

Mr. Hague—Is the company going to rebate the excess, if it is found to be in excess, of the amount the Board anticipated?

Mr. Wherry—We will take the net return that the Board fixed as fair for the period, that is, one-half of seven and a quarter per cent. of the capital base.

Commissioner Osborne—Take the difference between the rate filed and the rate fixed and rebate it to the consumers.

Mr. Wherry—That might give the consumer a little less than the way which I propose to do it.

Mr. Hague—It will only be on three months, they were at the higher rate for three months.

Mr. Wherry—Six months. We are going back to October, that is six months.

Mr. Hague—I mean in the future, in the future payments in the event it is found more revenue is being received—

Commissioner Osborne—The future we will take care of when we receive it.

Mr. Wherry—We were not making this adjustment except in order to take care of what is an inequality. If this had been a Court of Equity, they would have had the rate go into effect and would have impounded the difference and then so much as represented an excess of over a fair return would have been returned. We are following that practice voluntarily here for the protection of the consumers and and their benefit, as a matter of fairness.

Commissioner Osborne—Mr. Hague, in view of the Board's determination that the company is entitled to the increase in rates, but not to the extent of its filed rate, in view of the fact that it was deprived of the increase for a considerable period of time, though no one's fault, don't you think that in a measure equalizes the inequality which you claim, the inequity which you claim due from the fact that service is not at the moment all that it should be?

Mr. Hague—No—

Commissioner Osborne—In view of the fact that the company—the rate is fixed by the Board in anticipation of the company immediately proceeding with its operations, being because of this rate able to raise the necessary capital, with its contemplated improvements which will enable it to give the service which all of you concede should be given.

Mr. Hague—I do not agree with the Board on that. My view on that is very far from what the Board's decision is on it.

Commissioner Osborne—I suppose that is natural.

Mr. Hague—I might add this: It is not denied at all by the company that this service is absolutely inadequate and the Board admits this in their report.

Commissioner Osborne—I do not think they went so far as to say it was absolutely inadequate, because you are getting some water.

Mr. Hague—For fire purposes.

Commissioner Osborne—Aren't you getting any water for fire purposes?

Mr. Hague—We are gettting some.

Commissioner Osborne—It is inadequate, it is not what it should be. As to the extent of it you may disagree.

Mr. Hague—In considering those facts, has the Board taken any action toward directing the company to immediately change that condition?

Commissioner Osborne—The Board will have the company's efforts very carefully check up by its engineers.

Mr. Hague—The Board having all the facts at hand, would it be improper to ask the Board at this time to direct the company to commence metering, install the mains to supersede these inadequate cement mains which now exist in the City of Elizabeth?

Commissioner Osborne—Insofar as the condition of the cement mains is responsible for the failure of the supply.

Mr. Hague—Yes, or I might put it in a little different way, that the Board direct the company to furnish an adequate pressure for fire protection purposes in the City of Elizabeth.

Commissioner Osborne—We will take all this that you have said into consideration, Mr. Hague, and will dispose of the matter. We must dispose of it. These things cannot go on interminably. We must dispose of it promptly. We are merely adding to the confusion.

Mr. Hague—Do I understand the Board will make an order in that case without further testimony or is it up to the city to start—

Commissioner Osborne—I don't know whether we will make an order or not. We will consider whether we will make an order or not. If we desire to make an order I think there is enough in the case to base it on.

Mr. Hague—And that will be some time in the future.

Commissioner Osborne—You can send out your bills right away on the basis I have indicated here.

Mr. Wherry—We will send out the bills and then follow that with a credit slip adjustment as soon as that can be checked, and if it is possible we will put a notice in the bill that the credit slip will be sent.

Has an order been entered?

Commissioner Osborne—No, the order has not been actually entered, but it will be. I suppose you have no objection. Do you wish to be heard on the suggestion of Mr. Hague that in the order when it is entered, the order shall incorporate in it the directions as to service?

Mr. Wherry—As to service? Oh, indeed I do. I think you have got to have your service order after a hearing, because I think if you are going to start in—

Commissioner Osborne—You admit the service is bad?

Mr. Wherry—We admit that improvements have to be made in the system to give good service.

Commissioner Osborne—You admit you contemplate certain improvements to improve that service?

Mr. Wherry—And are carrying them on now.

Commissioner Osborne—Why isn't that in this case, why do you have to have another hearing for that?

Mr. Wherry—That is not what I mean. If you were going to direct us to make any specific improvements of service—

Commissioner Osborne—I mean to carry out the improvements which you, yourself, have indicated in the case you contemplate in order to improve the service, and to meet any deficiency in service.

Mr. Wherry—May it please the Board, I think it has got to be clear in the order that the rate which you fix is for the service now being rendered, or else we will have difficulty in collecting those rates. You have got to specify what that is for, then the Board can direct us to furnish a report as to the progress we are making in

metering and improving the service and make those reports, and proceed with the improvement of the service, but what I am afraid of—

Commissioner Osborne—I should not like to say this rate is fixed on the theory that you are rendering the service you should render.

Mr. Wherry—But it has to be for the service that is being rendered.

Commissioner Osborne—Of course it is for the service that is being rendered, but not on the theory that you are rendering adequate service.

Mr. Wherry—Adequate service under the circumstances is all you can do.

Commissioner Osborne—I suppose you are rendering, under the circumstances—the difficulty is with the circumstances.

Mr. Wherry—It is a difficulty with the circumstances. The minute the rate goes into effect one of the great difficulties is taken away.

Commissioner Osborne—I think we will make our observation as to what efforts the company makes to improve this service. There is no reason why we should not be and probably will go on with the hearing on our own volition, if the company are not acting in apparently good faith in the matter, certainly if we do no, if you desire, if you can bring it to the attention of the Board it is a very simple process.

I think that disposes of the matter. I don't know that we will need to say anything else at this time. The order will be entered.

Mr. Wherry—We can send the bills out then?

Commissioner Osborne—Yes, send the bills right out.

(Matter taken into conference.)

INDEX TO VOL. III.

SUMMARY OF EXHIBITS.

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Summary of Exhibits.

Exhibit P-1.—Pamphlet entitled "Volume I, Description of Property."

This exhibit consists of 27 pages, comprising a description of the plant of the company:

(a) General outline of the system:

(b) List and location of its sources and supplies, accompanied by a map No. 1 showing their location; said supplies being Elizabeth Pumping Station, Hammock Pumping Station, Springfield Pumping Station, Piscataway Water Company, Watchung Water Company, together with the following sources owned by other companies from which this company buys water.

Middlesex Water Company—Robinson's Branch, Park Ave. Pumping Station; Plainfield-Union—Commonwealth Water Company, Short Hills Water Company, Rahway City Water Works, Newark City Water Works; a map of the Elizabethtown Pumping Station; a map and diagram showing the wells and buildings at the Hammock Pumping Station; a map and diagram showing the buildings and wells of the Springfield Pumping Station; a map and diagram showing the buildings and wells of the Piscataway Pumping Station; a map and diagram showing the buildings and wells of the Watchung Pumping Station.

This exhibit also contains a description of the distribution system, distribution storage, distributing mains, hydrants, gate-valves, service connections and meters, and a tabulation showing the summary of distribution mains, as of January 1, 1919.

TABLE NO 4 OF EXHIBIT 1.

SUMMARY OF DISTRIBUTION MAINS
THE ELIZABETHTOWN WATER COMPANY
AS OF JANUARY 1, 1919.

Size. (1)	*Lineal Feet Wrought Iron.* (2)	*Lineal Feet Wrought Iron Cement Lined.* (3)	*Lineal Feet Cast Iron.* (4)	*Total.* (5)	*Per Cent. of Total.* (6)
¾"	15	.....	.....	15	0.00
1½"	390	.....	.....	390	0.05
2"	..	435	.....	435	0.05
3"	..	15	.....	15	0.00
4"	400	61,699	34,988	97,087	11.89
6"	..	53,806	419,906	473,712	58.04
8"	..	.....	763	763	0.09
10"	..	25,764	125,555	151,319	18.54
12"	..	7,699	65,686	73,385	8.99
16"	..	.....	1,183	1,183	0.15
18"	..	370	215	585	0.07
20"	..	1,850	12,653	14,503	1.78
24"	..	120	2,735	2,855	0.35
Total, ..	805	151,758	663,684	816,247	100.00

Proportion of Wrought Iron Pipe, ... 0.10%
Proportion of Wrought Iron Cement Lined Pipe, ... 18.59%
Proportion of Mains 4" and smaller, ... 12.00%

Service Connections.

Before the Public Utility Commissioners issued their order requiring that water companies install service connections, such connections from the lines of The Elizabethtown Water Company were installed and owned by the consumer. Subsequent to the issuance of this order

the company has laid the service connections at its own cost and expense. The inventories include only the service connections laid and installed at the expense of the company.

Meters.

Most of the meters in the system of The Elizabethtown Water Company, except in the larger sizes, were installed in 1918 at the cost and expense of The Elizabethtown Water Company. Meters installed prior to the order of the Public Utility Commissioners requiring that water companies acquire and maintain all old and new meters, were installed at the expense of the consumer, but the company, in accordance with the decree of the Public Utility Commissioners, has taken over and paid for these meters at a price fixed by the Commission, so that at the present time they own all meters installed on its service connections.

Exhibit P-2—Maps.

This exhibit contains:

(1) Maps of the real estate of the Elizabethtown Water Company, Watchung Water Company, Piscataway Water Company and Raritan Township Water Company, showing the location of all the parcels of the property referred to in the testimony of the real estate experts.

(2) Together with a list of deeds, with the reference to the book and page where they were recorded of all the property; and

(3) An abstract of the descriptions of the easements or rights of way comprising parcels Nos. 1 to 57 inclusive.

Exhibit P-3.—Inventories and Schedules Prepared by the Companies' Expert, Nicholas S. Hill, Jr.

This exhibit comprises the inventory of all the properties, together with unit prices; also tables of depreciation, and a list of property not used and useful.

Exhibit P-4—Summary of Valuation.

THE ELIZABETHTOWN WATER COMPANY.

OUTLINE OF VALUATION OF THE ELIZABETHTOWN WATER COMPANY BY NICHOLAS S. HILL, JR.

Valuation of Plant.

The basis of my opinion of the fair value of the property of this Company, expressed at the conclusion of this outline, is as follows:

Fair value is the intrinsic worth or real equivalent of a thing, and there can be no fixed and immutable rule for ariving at fair value. In the last analysis, the determination of fair value is a matter of judgment on the part of appraiser, court or commission, but costs are generally used as an index of value, an index which appraisers, courts and commissions customarily take into account in making a determination of value. For the purpose of obtaining the fair value of the property of The Elizabethtown Water company I have, therefore, considered its cost on the following bases:

1. Cost of reproduction:
   a. Based on the cost of labor and material prior to the war (1909 to 1914 inclusive).
   b. Based on the average pre-war cost of labor and material applied to the plant existing at the beginning of 1915 plus the actual cost of all new plant installed since that date.
   c. Based on the average cost of labor and materials for the ten years 1911 to 1920 inclusive.
   d. Based on the cost of labor current during 1918 and the average cost of materials for the ten years from 1909 to 1918 inclusive.

e. Based on the cost of labor and materials current during 1920.

f. Based on the cost of labor and materials current on April 1, 1921.

2. Cost of reproduction on the above bases less depreciation, or so-called present value.

3. Actual cost of investment value so far as can be ascertained.

It should be remembered, however, that cost and value are not synonymous, though they may be closely interrelated. Cost is the price paid for a thing. It may be greater or less than the intrinsic worth, which is value. The courts have repeatedly held that what is to be determined in the valuation of a property is it fair value and not its cost.

Actual costs are seldom available. There may be book costs, but these may, and usually do, vary widely from actual costs, particularly in the case of old companies. Such book costs unmodified may include the cost of plant long since worn out and discarded but never charged off the books. Where other companies have been acquired by purchase, they usually show only the price paid for them but not the cost, and the price paid may or may not bear a close relation to the cost of the property purchased. The price paid may be more or less than the cost.

Book costs, and particularly old entries, seldom include the miscellaneous construction expenditures, such as engineering, administration and legal expenses, taxes, insurance and interest during construction, which are properly chargeable against fixed capital accounts but seldom have been so charged in the past.

Book costs frequently include plant used for minor and subsidiary operations which have nothing to do with the supply of water, and what is to be priced is the property used and useful for water supply purposes.

No attempt has been made to ascertain the actual book cost of the property of The Elizabethtown Water Company for the reason that the accounting system

prior to the installation of their present system in 1913 was not such as to truly reflect the actual costs and also because the vouchers requisite for a complete audit of the Company from the beginning to ascertain book costs were not available and, therefore, to have attempted to ascertain the true book cost would have been futile. We have, however, made use of the balance sheets of the Company, which include a statement of the physical assets, and have checked this with reproduction estimates based on pre-war prices for the purpose of ascertaining as accurately as possible the probable original cost.

The property existing January 1, 1919, was inventoried and valued during 1919, and this value plus the cost of the additions to the plant during 1919 and 1920, as shown on the Company's books, has been used in arriving at the fair value of the property.

Cost of Reproduction of Tangible Property, January 1, 1919.

In estimating the cost of reproduction of the tangible property a complete detailed inventory of the entire plant of The Elizabethtown Water Company was made by a party of field engineers organized for the purpose. This inventory will be found in VOLUME II, pages 1 to 610. The inventory is set up in accordance with the "Uniform System of Accounts for Water Utilities of the State of New Jersey," except that Real Estate and Rights of Way, the valuations on which were not received until long after the completion of the physical inventories, have not been allocated to different schedules as prescribed but have been classified in a separate schedule.

Buildings and structures of every kind, including dams, gate houses, outbuildings, dwellings occupied by pumping station employees, and the like, which are appurtenant to and form part of reservoirs or pumping

stations have been allocated to the accounts to which they are appurtenant.

Elements of Cost.

I have divided the cost of every piece of construction work into its several elements:

1. The actual cost of the materials and labor going into the work. These costs include the rate per day or per hour paid for different classes of labor and the cost per unit of the material delivered f.o.b. cars at the nearest point of delivery for the work.
2. Where the point of delivery is distant from the point of construction, the cost of handling and hauling materials must be added to the unit costs above described.
3. Where work is done by contract, contractor's profit and expense must be added to the cost of the labor and the cost of the materials delivered at the site of the work, and even where the work is done by force account, there are expenses corresponding to contractor's profit and expense which must be estimated.
4. There are the miscellaneous construction expenses, or the general overhead expenses which every company must necessarily pay in executing construction work. These include contingencies, errors and omissions, administrative, legal and general expenses, engineering and superintendence, taxes and insurance during construction, interest during construction and the cost of financing.

The prices, which will be found in the inventory, are base costs, which include the cost of labor, cost of materials delivered at the site of the work, and contractor's profit and expense. Table No. 5, between pages 4 and 5, gives the percentage allowances made for miscellaneous construction expenses, or overheads, expressed as

a per cent. of the base cost. As seen at the bottom of this table the average percentage allowances for overheads are as follows:

Contingencies, errors and omissions, ...3.46%
Administrative, legal and general expense, ...1.53%
Engineering and superintendence, ...3.61%
Taxes and insurance during construction, ...1.19%
Interest during construction, ...7.59%

As applied, this makes a total of 17.38% of the base cost allowed for miscellaneous construction expenses. As seen from Table No. 5, the same percentage allowance is not made for every element of the plant, but the allowance on different elements varies between 4.50% and 28.96%, depending upon the amount of overhead expenses involved in completing each element of the plant.

Table No. 6, between pages 5 and 6, gives the summarized cost of reproducing the property and plant of The Elizabethtown Water Company on January 1, 1919, arranged according to schedules. Column (2) gives the base cost of reproduction obtained directly from the inventory. Columns (3) to (9) inclusive give the sums allowed for miscellaneous construction expenses based upon the percentage allowances shown in Table No. 5. Column (10) gives the gross cost of reproduction, which is base cost plus the cost of miscellaneous construction expenses.

Class of Items Included.

The original bound inventory was made as of January 1, 1919. I have, however, gone over the books and vouchers of the Company and taken off all new plant added from January 1, 1919, to December 31, 1920, so that the appraisal as now completed is an appraisal as of January 1, 1921. It includes all tangible property owned by The Elizabethtown Water Company as of the date of the valuation.

In Schedule 105, Water Diversion Rights, there is included among other rights the cost of constructing certain driven wells on the property of persons owning lands adjacent to the Hammocks and Springfield pumping stations. These wells are not owned by the Company, but were constructed by it to compensate the adjoining land owners for damage done which they claimed was caused by the lowering of the ground water table due to the pumpage of water at these stations.

Existing obsolete items which have a certain scrap value are appraised at their value considered as scrap. Items such as the Chilton Street distributing reservoir, which are not ordinarily used at present but which may be used and useful in emergencies, are included in the inventory.

The inventory contains four items of real estate and one structure which the Public Utilities Commission may consider should be eliminated from the rate base on the ground that they are not used and useful water works property. Such a conclusion may be avoided if all the facts were known, but as the history of the acquisition of these items is obscure I will eliminate them later before arriving at the finally adopted value of used and useful water works property.

The items above referred to are real estate, Parcels Nos. 59 and 60 on the west side of South Broad Street, Elizabeth, where it crosses the Elizabeth River; the warehouse now standing on these parcels; real estate, Parcel No. 61, known as the Louisa Street Lot, and real estate, Parcel No. 62, known as the Irvington Avenue Lot. There are no structures on Parcels No. 61 and 62. The first deed records covering this property indicate that it was acquired and held in trust for The Elizabethtown Water Company about 1876-77. Parcel No. 59, along the north bank of the Elizabeth River, was acquired from one Frederick Feritz. Parcels Nos. 60, 61 and 62 were acquired from N. K. Thompson, Sheriff, under a sheriff's sale to satisfy a judgment.

The record of prior ownership is not clear. There is an obscure reference which seems to indicate that there may once have been an old sawmill at the Broad Street site, and it may be that Parcels Nos. 59 and 60 were acquired in the early days in order to secure necessary water diversion rights. None of the items is used and useful for water works purposes now, and because of this fact and the uncertainties surrounding their acquisition they will be eliminated from the rate base. The warehouse on South Broad Street is rented out.

Price Basis.

The values assigned to real estate items, including real estate and rights of way, were obtained from appraisals made by local real estate men to whom inventories and maps of the several parcels to be appraised were submitted. The appraisers, acting under instructions, valued the several parcels merely as unimproved land acreage. All improvements have been inventoried and priced separately from the land. All secondhand equipment bought and installed has been included in the cost of reproduction at cost new, but in ascertaining the present value of such secondhand items they have been depreciated from the date at which they were built and not from the date at which they were bought, and no allowance whatever has been made for repairs and renewals made at the time that secondhand units were installed.

In valuing the structural items included in the inventories, prices for labor current in 1918 have been used, and material prices corresponding to an average from 1909 to 1918 inclusive. No allowance has been made for the decreased efficiency of labor which developed toward the close and after the war, but it has been assumed that labor would perform the same amount of work in a day as before the war.

The prices used are reasonable. Labor costs are much higher now than in 1918. It is impossible that they will recede below the 1918 level for some time to come.

On the other hand, the cost of material will undoubtedly recede at an earlier date. Prices of material are now regulated in some instances by shortage of supply rather than by the actual cost of production. Such prices are also considerably enhanced by the decreased efficiency of labor. Both of these causes are temporary and in time will be eliminated. On the other hand, speaking generally material prices cannot well fall below the cost of production, and the cost of production cannot fall to the pre-war level until the rates for wages do so, except processes are improved which will diminish the cost of labor entering into production and time is required for the development of such processes.

Prices of labor and materials were determined upon after a thorough canvass of the local market as well as a careful investigation of the actual prices paid for labor and material by The Elizabethtown Water Company, as evidenced by their payrolls and vouchers.

The local prices of labor and materials in and around Elizabeth are tabulated in Tables Nos. 1 and 2, between pages 8 and 9. A comparison of these prices with those prevailing in other communities in the vicinity of New York City is given in Diagrams Nos. 1 to 7, between pages 8 and 9.

In the selection of fair unit prices to ascertain reproduction cost there is room for great latitude in fixing the basis of pricing. I, therefore, appraised the original inventory on the basis of 1918 labor prices and the average price for materials for the ten years from 1909 to 1918, believing that this would fairly take into account the permanent set in the price level, and I have compared the figures produced by pricing the inventory on this basis with the value which would result from pricing with various other bases outlined at the beginning of my testimony.

To this base inventory I have added the actual cost of new additions to plant during the years 1919 and 1920. On the basis of 1918 labor prices and average prices of material from 1909 to 1918, inclusive, the cost of repro-

duction of the entire tangible property existing on January 1, 1919, was $4,185,493, as shown on Table No. 6, between pages 5 and 6. Eliminating the value of the five items previously referred to as not used and useful (see Table No. 7B, between pages 9 and 10), amounting to $78,013, the cost of reproduction of the used and useful tangible property existing on January 1, 1919, was $4,107,480.

Accrued Depreciation.

No formula can be arbitrarily applied for ascertaining accrued depreciation and any formula when used must be applied in the light of observed conditions. The so-called sinking fund method computed on a 3% basis has been used in part for ascertaining the accrued depreciation in this case, but it has been used in conjunction with a careful inspection of each structure in the field and the exercise of judgment in treating different structures. This method has been applied only to those items which have depreciated and probably will depreciate normally, and upon which there is no deferred maintenance. Particular items requiring special treatment have been depreciated by inspection. The estimate of depreciation, therefore, has not been confined to the use of an arbitrary formula, and such a formula has only been used as an aid in estimating the fair amount of depreciation on items of normal life on which estimates can be made, based on experience with similar structures elsewhere. Special depreciation has been allowed on those items which visual examination showed should be depreciated heavily. The estimated depreciation in the cost of reproduction which has accrued on the entire plant on January 1, 1919, amounts to $648,176, and that which has accrued on the used and useful portions of the plant amounts to $607,016.

Depreciated Value of Tangible Property Existing January 1, 1919.

Deducting the accrued depreciation from the cost of reproduction, the present depreciated cost of the entire tangible property is:

$4,185,493 — $648,176 = $3,537,317,

and of the used and useful tangible property is:

$4,107,480 — $607,016 = $3,500,464.

Table No. 7, between pages 10 and 11, gives the present or depreciated cost of the entire tangible property of The Elizabethtown Water Company as of January 1, 1919, arranged according to schedules in the same manner as in Table No. 6, between pages 5 and 6, giving the cost of reproduction.

Value of Tangible Property January 1, 1919, on Other Price Bases.

The value of the property and plant as of January 1, 1919, was estimated on various bases other than that used in the inventory. The present value of the property was computed in accordance with prices based on the following methods:

a. Based on the cost of labor and material prior to the war (1909 to 1914 inclusive).

b. Based on the average pre-war cost of labor and material applied to the plant existing at the beginning of 1915, plus the actual cost of all new plant installed since that date.

c. Based on the average cost of labor and materials for the ten years 1911 to 1920 inclusive.

d. Based on the cost of labor and materials current during 1920.

e. Based on the cost of labor and materials current on April 1, 1921.

The details of this computation are given in Table No. 4E, between pages 11 and 12, and the results are summed up in Table No. 4F, page 12.

In making up the summary in Table No. 4F, the cost of reproduction of the entire property was computed by

applying the ratios in the next to the last line of Table No. 4E, between pages 11 and 12, to the cost of reproduction as determined from the inventory, and the same ratios were used in obtaining the values for the used and useful property.

Item (b) in the summary is a conservative estimate of what the value of the property would be upon the basis stated. It is taken at 70% of the value as determined in the inventory, as the value on the pre-war basis (a) is 68% of the cost of reproduction given by the inventory.

In computing Table No. 4E, giving the valuation of the property as of January 1, 1919, in accordance with the summary, Table No. 4F, the first step taken was to compute the ratio of prices for various materials and labor. These ratios are tabulated in Table No. 3, between pages 13 and 14, which shows the ratio that has to be applied to the 1918 valuation price in order to reduce that price to the basis stated. For example: The price of cast-iron pipe, as used in the inventory, will have to be multiplied by 2.40 in order to obtain the price current in 1920 and the price of common labor used in the inventory will have to be multiplied by 1.25 in order to obtain the price which prevailed during 1920.

After Table No. 3, between pages 13 and 14, was prepared, a careful analysis was made of the items in each account in order to determine:

1. The proportion of labor and material in the account.
2. The kind of material in the items listed under the account.
3. The class of labor used in the construction of these items.

The proper ratios in Table No. 3 were applied to these proportions of labor and material and a weighted average ratio or factor obtained applicable to changing the value used in the inventory to a value corresponding to the basis under consideration.

For example: The proportion of materials and labor on the Bound Brook main (Schedule No. 127) is 75%

and 25% respectively. About 90% of the material in this main is cast-iron pipe and specials and the remaining 10% lead. The prices used in the inventory for these two materials would have to be multiplied by 2.40 and 1.49 respectively in order to obtain prices corresponding to those prevailing in 1920 (See Table No. 3, Column 4), and taking the weighted average for the two you obtain 2.30 as the mean ratio for materials. The labor required for the construction of this main is almost wholly common labor, with a little teaming and some supervision on the part of the foreman. The fair ratio to use to change the inventory labor cost to a basis corresponding to 1920 is 1.25. Weighting these ratios of 2.30 and 1.25 in accordance with the proportions of 75% material and 25% labor, we have a weighted average of 2.03 to apply to the cost of the Bound Brook main as given in the inventory in order to change same to a cost corresponding to prices prevailing in 1920. (See Column 7 of Table No. 4E, between pages 11 and 12.)

Investment.

The value of the entire tangible property and plant of The Elizabethtown Water Company as of January 1, 1919, is carried on the Company's books as $2,200,-931.10. (See Balance Sheet, Table No. 8, between pages 14 and 15.) Comparison of this figure with the estimated cost of reproduction on the basis of pre-war prices plus the actual cost of additions from 1914 to 1918, inclusive, which total $2,875,236, indicates that the book value amounting to $2,200,931 does not include any adequate allowance for miscellaneous construction expenditures or overheads. If 17.5% is added to cover these elements, the investment value of the entire tangible property becomes $2,586.094. The investment value of the used and useful tangible property is probably not less than $2,530,000.

Capitalization.

The outstanding obligations of the Company as of January 1, 1919, consisted of $981,520 of capital stock and $500,000 of mortgage bonds, making a total capitalization of $1,481,520.

In addition to the stock and bonds, the Company had on January 1, 1919, an unfunded debt of $15,000 in the form of notes payable, making the total outstanding obligations as of that date $1,496,520. This is very much less than the estimated cost of the entire tangible property, based on average pre-war prices plus the actual cost of additions since 1914, which, as noted on page 12, amounts to $2,929,845. It is also much less than the investment of $2,586,094, as reflected by the books. This not only indicates that the Company has neglected in the past to charge the proper amount of overheads to fixed capital accounts, but also that it has put a considerable amount of its earnings and reserve funds back into the plant. This conclusion is apparently substantiated by the Balance Sheet of The Elizabethtown Water Company as shown on Table No. 8, between pages 14 and 15, which shows a depreciation reserve of $152,097.39 and undivided profits of $1,299,298.56. Deducting from these sums the amounts invested in securities, loans to other water companies, cash on hand and in bank, etc., a balance of $704,435.88 is shown, which represents the sums not obtained from the sale of securities which have been re-invested in plant.

Summary of the Value of the Tangible Property, January 1, 1919.

If from the reproduction estimates of the entire property on the basis used in this appraisal, namely, labor prices current in 1918 and average material prices for the ten years 1909 to 1918 inclusive, there is deducted the value of the property which may be considered not to be used and useful for water works purposes although

included in the inventory, the following results are obtained as a fair basis for rate making by reproduction estimates and a study of the probable actual investment in the tangible water property on January 1, 1919:

	Used and Useful Property January 1, 1919.	
Item (1)	*Gross Cost of Reproduction* (2)	*Gross Depreciated Value January 1, 1919* (3)
(a) At pre-war prices (1909-1914),	$2,793,086	$2,380,316
(b) On basis of pre-war prices and property as of 1914, plus actual cost of additions 1914-1918 inclusive,	2,875,236	2,450,325
(c) Based on ten-year average prices for labor and material, 1911-1920 inclusive,	4,353,929	3,710,492
(d) Based on prices current in 1920,	7,311,314	6,230,826
(e) Based on prices current on April 1, 1921,	6,859,492	5,845,775
(f) At prices used in inventory,	4,107,480	3,500,464
(g) Investment value of tangible property-book value plus proper allowance of 17.5% to cover overhead expenses,	2,530,000	.....
(h) Capitalization,	1,496,520	.....

Value of Tangible Property, January 1, 1921.

The addition of the fixed capital expended on plant during 1919 and 1920 to the value of the property existing January 1, 1919, and the deduction of the proper allowance for depreciation and for the removal of items of the plant during these two years will give the value of the tangible property existing January 1, 1921.

Table No. 6A, between pages 16 and 17, gives the cost of reproduction of the property and plant of The Elizabethtown Water Company as of January 1, 1921. From the inventory value of the elements existing January 1, 1919, there has been deducted the value allowed in the inventory for the items which are not used and useful for water works purposes, as set forth in Table No. 7B, between pages 9 and 10. From the remainder there has been deducted the value allowed in the inventory for the property which has since been abandoned or removed during 1919 and 1920, as set forth in Tables Nos. 7C and 7D, between pages 16 and 17. Then there has been added the value of the items added to the plant during 1919 and 1920 as shown on the Company's books (See Table No. 7E, between pages 16 and 17). The result, shown in Line (j) of Table No. 6A, between pages 16 and 17, gives the cost of reproduction of the used and useful property and plant on January 1, 1921, as $4,344,957.

Table No. 7A, between pages 17 and 18, brings the depreciated value of the property up to date in a manner similar to that just explained for Table No. 6A. Column (10) of Table No. 7A gives the total gross present value of the used and useful property on January 1, 1921, as $3,647,234. It shows the depreciated value of the elements existing January 1, 1919, followed by deductions for property not used and useful and for property abandoned or withdrawn, and additions for property added during 1919 and 1920. It further shows the deduction for the proper annual depreciation

for 1919 and 1920 as computed in Table No. 7F, between pages 17 and 18. This depreciation has been estimated at an annual allowance of 1.5% of the cost of reproduction of the depreciable property.

Going Cost.

It is self-evident that cost, in addition to the mere cost of the physical property, is incurred by any corporation in the process of its development. The development cost is to the financial side of the property what the cost of buildings and structures is to the physical side. It should be added to the cost of reproduction of the tangible property in arriving at a proper rate base.

Where the cost of reproduction is used as a basis for estimating value, it is proper to allow a reasonable sum for going cost. On the average 8 per cent. to 10 per cent. of the gross cost of reproduction of the tangible property is a fair allowance for going cost. In this case I have allowed 10 per cent., which amounts to $434,496 for the used and useful property as of January 1, 1921. Added to the present value of the tangible property as of January 1, 1921, or $3,647,234 (see page 17), this gives a gross present value of $4,081,730 for the used and useful property.

Conclusions.

Considering all the conditions surrounding the property and the present cost of labor and materials, a value of $4,080,000 may fairly be assumed as the fair value of the existing used and useful property for rate-making purposes as of January 1, 1921.

Piscataway Water Company.

Method of Valuation.

The method of valuation used for this Company is the same as that outlined for the Elizabethtown Water

Company (see page 1). All of its property is used and useful.

The original (or bound) inventory was made as of January 1, 1919. I have, however, gone over the books and vouchers of the Company and taken off all new plant added during 1919 and 1920, so that the appraisal as now completed includes all tangible property owned by the Piscataway Water Company as of January 1, 1921.

Cost of Reproduction of Tangible Property, January 1, 1919.

The inventories, upon which the cost of reproduction of tangible property is based, will be found in Volume II, pages 611 to 702. As in the case of the Elizabethtown Water Company (see page 4), the prices in the inventory are base costs which include cost of labor, cost of material delivered at the site of the work and contractor's profit and expense.

Table No. 15, between pages 19 and 20, gives the percentage allowances for miscellaneous construction expenses or overheads expressed as a per cent. of the base cost. As seen at the bottom of this table, the average percentage allowances for overheads are as follows:

Contingencies, errors and omissions, ...	4.63%
Administrative, legal and general expenses, ..	1.55%
Engineering and superintendence, ...	3.25%
Taxes and insurance during construction, ...	1.02%
Interest during construction, ...	6.47%

As applied, this makes a total of 16.91 per cent. on the base cost allowed for miscellaneous construction expenses.

Table No. 16, between pages 20 and 21, gives the summarized cost of reproducing the property and plant of the Piscataway Water Company on January 1, 1919, arranged according to schedules. Column (2) gives the base cost of reproduction obtained directly from the in-

ventory, and Columns (3) to (9) inclusive give the amounts allowed for miscellaneous construction expenses based upon the percentage allowances shown in Table No. 15, between pages 19 and 20. Column (10) gives the gross cost of reproduction which is the base cost plus the cost of miscellaneous construction expenses.

Price Basis.

The values assigned to the real estate and rights of way were obtained from an appraisal made by a local real estate man to whom inventories and maps of the several parcels to be appraised were submitted.

Structural items were priced on the same basis as the structural items of the Elizabethtown Water Company (see pages 7 to 9).

On the price basis used, the cost of reproduction of the tangible property of the Piscataway Water Company on January 1, 1919, as shown on Table No. 16, between pages 20 and 21, is $803,948.

Depreciated Value of Tangible Property Existing January 1, 1919.

Table No. 17, between pages 20 and 21, gives the present or depreciated base cost or present value in Column (2). Column (10) gives the gross depreciated or present value with the addition of the miscellaneous construction expenditures, as shown in Columns (3) to (9). As seen from this table, the estimated present value of the tangible property as of January 1, 1919, is $787,718, making the estimated accrued depreciation $16,230.

Value of Tangible Property, January 1, 1919, on Other Price Bases.

The value of the property and plant of the Piscataway Water Company as of January 1, 1919, was estimated on various other bases than that used in the inventory, as outlined for the Elizabethtown Water Company on page 11 of this memorandum.

The details of this computation are given in Table No. 4-P, between pages 21 and 22, and the results are summed in the table below, the cost of reproduction and the amounts for Item (b) being computed as stated on page 11 of this memorandum.

TABLE No. 4-Q.

SUMMARY OF THE VALUE OF THE TANGIBLE PROPERTY AND PLANT OF THE PISCATAWAY WATER COMPANY, AS OF JANUARY 1, 1919, BASED ON VARIOUS METHODS OF PRICING.

Item (1)	*Per Cent. of Item (f)* (2)	*Gross Cost of Reproduction* (3)	*Gross Depreciated Value January 1, 1919* (4)
(a) At pre-war prices (1909-1914), ...	68	$546,685	$532,952
(b) On basis of pre-war prices and property as of 1914, plus actual cost of additions 1914-1918 inclusive, ...	70	562,764	551,403
(c) Based on ten-year average prices for labor and materials 1911-1920 inclusive, ...	107	860,224	839,433
(d) Based on prices current in 1920,	184	1,479,264	1,445,861
(e) Based on prices current on April 1, 1921, ...	169	1,358,672	1,331,290
(f) At prices used in the inventory, ..	100	803,948	787,718

TABLE NO. 18.

BALANCE SHEET DEC. 31, 1918, PISCATAWAY WATER COMPANY.

Assets.

Fixed capital installed prior to Jan. 1, 1913,	$276,763.93
Fixed capital installed since Dec. 31, 1912,	134,587.62
Materials and supplies,	2,879.49
Cash,	1,675.80
Accounts receivable,	2,243.87
Investments in Watchung Water Co.,	31,000.00
Prepayments,	193.44
Other suspense,	113.34
	$449,457.49

Liabilities.

Funded debt,	$270,000.00
Bond interest accrued,	2,250.00
Notes payable,	20,000.00
Advances from other corporations,	146,721.74
Accounts payable,	1,933.33
Unearned revenue,	520.00
Accrued amortization of capital,	32,345.36
Capital stock outstanding,	11,400.00
Corporate deficit,	35,712.94
	$449,457.49

The method of computing the ratios given in Table No. 4 P is the same as that already explained for Table No. 4 E, between pages 11 and 12 of this memorandum.

Investment.

The value of the tangible property and plant of the Piscataway Water Company as of January 1, 1919, as carried on the books is $414,231.04. (See Balance

Sheet, Table No. 18, between pages 21 and 22.) This is 51.5% of the estimated cost of reproduction of the tangible property on the price basis used in this appraisal, and 73.6% of the estimated cost of reproduction of the tangible property on the basis of pre-war prices plus the actual cost of additions since 1914. These figures indicate very clearly that the book costs do not include any adequate allowance for miscellaneous construction expenses or overheads properly chargeable against fixed capital accounts. If 17% is added to cover these elements, the investment value of the tangible property becomes $484,650, or 86.1% of the cost of reproduction on the basis of pre-war prices plus the actual cost of additions since 1914.

Capitalization.

The outstanding obligations of the Company as of January 1, 1919, consisted of $11,400 of capital stock and $270,000 of 5% mortgage bonds, making a total capitalization of $281,400. In addition to the stock and bonds, the Company had on January 1, 1919, an unfunded debt consisting of $20,000 of notes payable drawing 6% interest, and $146,721.74 in the form of advances from The Elizabethtown Water Company on which it pays no interest, making the total outstanding obligations as of that date $448,121.74. This is higher than the value carried on the books of the Company by $33,890.70.

Summary of the Value of the Tangible Property, January 1, 1919.

Having discussed the results produced by reproduction estimates and the probable actual investment in the property as of January 1, 1919, they may be summarized as follows:

Item (1)	*Gross Cost of Reproduction* (2)	*Gross Depreciated Value January 1, 1919* (3)
(a) At pre-war prices (1909-1914), ...	$546,685.	$532,952.
(b) On basis of pre-war prices and property as of 1914, plus actual cost of additions 1914-1918, inclusive, ...	562,764.	551,403.
(c) Based on ten year average prices for labor and materials, 1911-1920, inclusive, ...	860,224.	839,433.
(d) Based on prices current in 1920, ...	1,479,264.	1,445,861.
(e) Based on prices current on April 1, 1921, ...	1,358,672.	1,331,290.
(f) At prices used in the inventory, ...	803,948.	787,718.
(g) Investment value of tangible property = book value plus proper allowance of 17% to cover overhead expenses,.	484,650.	.....
(h) Capitalization, ...	448,122.	.....

Value of Tangible Property, January 1, 1921.

The value of tangible property existing January 1, 1921, was obtained by adding to the value of the property existing January 1, 1919, as determined by the inventory, the fixed capital expended on plant during 1919 and 1920 and by deducting the proper allowance for depreciation and for the removal of items of the plant during these two years.

Table No. 16 A, between pages 23 and 24, gives the cost of reproduction of the property and plant of the Piscataway Water Company as of January 1, 1921. From the inventory value on the elements existing January 1, 1919, there has been deducted the value allowed in the inventory for the property which has since been abandoned or removed during 1919 and 1920, which consists simply of a decrease in the inventory of materials and supplies during 1919. To the remainder has been added the value of the items added to the plant during 1919 and 1920, as shown on the Company's books. (See Table No. 17 E, between pages 23 and 24.) The results shown in line (f) of Table No. 16 A give the cost of reproduction of the used and useful property and plant as of January 1, 1921.

Table No. 17 A, between pages 24 and 25, brings the depreciated value of the property up to date in a manner similar to that just explained for Table No. 16 A. It shows the depreciated value of the elements existing January 1, 1919, followed by deductions for property abandoned or withdrawn and additions for property added during 1919 and 1920. It further shows the deduction for the proper annual depreciation for 1919 and 1920, as computed in Table No. 17 D, between pages 24 and 25, at an annual rate of 1.5% of the cost of reproduction of the depreciable property.

Development Cost.

Approximately 96% of the operating revenue of this Company is received from The Elizabethtown Water Company in payment for the supply and transportation of water. It sells water to The Elizabethtown Water Company at the very low price of $35. per million gallons and transports its for $5. per million gallons additional. No dividends have ever been paid and the Company showed a corporate deficit of $35,712.94 on January 1, 1919, as indicated by the Balance Sheet, Table No. 18, between pages 21 and 22. If interest at 7% on

the advances from The Elizabethtown Water Company were added to the fixed charges of the Piscataway Water Company, the accumulated deficit covering the seven years from 1914 to 1920 alone would amount to $140,007. A part of the advances from The Elizabethtown Water Company has been used in payment of bond interest, which is guaranteed by The Elizabethtown Water Company. It is evident from what precedes that the development cost of the Piscataway Water Company is large. The very least which could be allowed for development cost would be the true amount of the accumulated deficits during the past seven years, or $140,007. It would be fairer to make an allowance for development cost equal to the deficiency in earnings below 7% per annum on the investment value, compounded annually from the date it commenced operations to the date of the valuation, which would, of course, produce a very much larger development cost than that obtained by taking these deficits.

Going Cost.

In order to ascertain the gross cost of reproduction as a basis for estimating value, I have allowed for going cost 10% of the gross cost of reproduction of the tangible property as of January 1, 1921, or $80,828. This, added to the present value of the tangible property as of January 1, 1921, or $769,620 (see Column 10 of Table No. 17 A, between pages 24 and 25), gives a gross present value of $850,448.

Conclusions.

Considering all of the conditions surrounding this property and the present cost of labor and materials, a value of $750,000. as of January 1, 1921, may be assumed as an equitable base for rate making purposes.

Raritan Township Water Company.

Method of Valuation.

The same method of valuation has been used for this Company as was outlined for The Elizabethtown Water Company (see page 1). All of the property of the Raritan Township Water Company is used and useful.

The original (or bound) inventory was made as of January 1, 1919. I have, however, gone over the books and vouchers of the Company and taken off all new plant added during 1919 and 1920, so that the appraisal as now completed includes all tangible property owned by the Raritan Township Water Company as of January 1, 1921.

Cost of Reproduction of Tangible Property, January 1, 1919.

The inventories upon which the cost of reproduction of tangible property as of January 1, 1919, is based will be found in Volume II, pages 703 to 727. As in the case of The Elizabethtown Water Company (see page 4), the prices in the inventory are base costs which include cost of labor, cost of material delivered at the site of the work and contractor's profit and expense.

Table No. 21, between pages 26 and 27, gives the percentage allowances for miscellaneous construction expenses, or overheads, expressed as a per cent. of the base cost. As seen at the bottom of this table the average percentage allowances for overheads are as follows:

Contingencies, errors and omissions, ...	4.38%
Administrative, legal and general expense, ...	1.54%
Engineering and superintendence, ...	3.09%
Taxes and insurance during construction, ...	0.71%
Interest during construction, ...	4.46%

As applied, this makes a total of 14.17% of the base cost allowed for miscellaneous construction expenses.

Table No. 22, between pages 27 and 28, gives the summarized cost of reproducing the property and plant of the Raritan Township Water Company on January 1, 1919, arranged according to schedules. Column (2) gives the base cost of reproduction obtained directly from the inventory, and Columns (3) to (4) inclusive give the sums allowed for miscellaneous construction expenses based upon the percentage allowances shown in Table No. 21, between pages 26 and 27.

Column (10) gives the gross cost of reproduction which is the base cost plus the cost of miscellaneous construction expenses.

Price Basis.

The values assigned to the right of way items were obtained from an appraisal made by a local real estate man, to whom inventories and maps of the several parcels to be appraised were submitted.

Structural items were priced on the same basis as the structural items of The Elizabethtown Water Company, as outlined on pages 7 to 9 of this memorandum.

On the price basis used the cost of reproduction of the tangible property of the Raritan Township Water Company on January 1, 1919, as shown on Table No. 22, between pages 27 and 28, is $241,279.

Depreciated Value of Tangible Property Existing January 1, 1919.

Table No. 23, between pages 28 and 29, gives the present or depreciated base cost or present value in Column (2). Column (10) gives the gross depreciated or present value, with the addition of the miscellaneous construction expenditures as shown in Columns (3) to (9). As seen from this table the estimated present value of the tangible property as of January 1, 1919, is $237,691, making the estimated accrued depreciation $3,588.

Value of Tangible Property, January 1, 1919, on Other Price Bases.

Table No. 4R, between pages 28 and 29, gives the value of the property and plant of the Raritan Township Water Company as of January 1, 1919, in accordance with the methods of pricing outlined on page 11 of this memorandum. This table was computed in the same way as Table No. 4E (see pages 13 and 14 of this memorandum), and the results are summed up as follows:

TABLE No. 4S.

SUMMARY OF THE VALUE OF THE TANGIBLE PROPERTY AND PLANT OF THE RARITAN TOWNSHIP COMPANY, AS OF JANUARY 1, 1919, BASED ON VARIOUS METHODS OF PRICING.

Item (1)	*Per Cent. of Item* (f) (2)	*Gross Cost of Reproduction* (3)	*Gross Depreciated Value January 1, 1919* (4)
(a) At pre-war prices (1909-1914), ..	70	$168,895	$166,177
(b) On basis of pre-war prices, and property as of 1914, plus actual cost of additions 1914-1918 inclusive, ...	70	168,895	166,177
(c) Based on ten-year average prices for labor and materials 1911-1920 inclusive, ...	114	275,058	270,455

(d) Based on prices current in 1920,.	202	487,384	481,009
(e) Based on prices current on April 1, 1921, ...	182	439,128	431,742
(f) At prices used in the inventory, ..	100	241,279	237,691

Investment.

The value of the tangible property and plant of the Raritan Township Water Company as of January 1, 1919, is carried on the Company's books as $165,-725.40. (See Balance Sheet, Table No. 24, between pages 29 and 30.) This figure agrees within 2% with the estimated cost of reproduction on the basis of pre-war prices plus the actual cost of additions since 1914, and, therefore, indicates that the value carried on the books is sufficient to include the overheads properly chargeable against fixed capital accounts.

TABLE NO. 24.

BALANCE SHEET DEC. 31, 1918.

RARITAN TOWNSHIP WATER COMPANY.

Assets.

Fixed Capital installed prior to Jan. 1, 1913,	$150,949.19
Fixed Capital installed since Jan. 1, 1913, ..	14,776.21
Accounts Receivable, ...	505.07
Cash, ...	1,086.29
	$167,316.76

Liabilities.

Funded Debt, ...	$125,000.00
Capital Stock, ...	12,400.00
Advances from other Corporations, ...	43,052.42
Accounts Payable, ...	324.00

Accrued Amortization,	13,248.99
Bond Interest Accrued,	1,041.67
Unearned Revenue,	136.50
Corporate Deficit,	27,886.82
	$167,316.76

Capitalization.

The outstanding obligations of the Company as of January 1, 1919, consisted of $12,400 of capital stock, and $125,000 of 5% mortgage bonds, making a total capitalization of $137,400. In addition to the stock and bonds, the Company had on January 1, 1919, an unfunded debt of $43,052.42 in the form of advances from The Elizabethtown Water Company, making the total outstanding obligations as of that date $180,452.42.

Summary of the Value of the Tangible Property, January 1, 1919.

Having discussed the results produced by reproduction estimates and the probable actual investment in the property as of January 1, 1919, they may be summarized as follows:

Item. (1)	*Gross Cost of Reproduction.* (2)	*Gross Depreciated Value January 1, 1919.* (3)
(a) At pre-war prices (1909-1914),	$168,895	$166,177
(b) On basis of pre-war prices and property as of 1914, plus actual cost of additions from 1914-1918 inclusive,	168,895	166,177
(c) Based on ten-year average prices for labor and materials, 1911-1920 inclusive,	275,058	270,455

(d) Based on prices current in 1920,	487,384	481,009
(e) Based on prices current on April 1, 1921,	439,128	431,742
(f) At prices used in the inventory,	241,279	237,691
(g) Investment, or book value,	165,725	
(h) Capitalization, including advances,	180,452	

Value of Tangible Property, January 1, 1921.

Table No. 22A, between pages 31 and 32, gives the cost of reproduction of the tangible property and plant of the Raritan Township Water Company as of January 1, 1921.

Table No. 23A, between pages 31 and 32, gives the corresponding present or depreciated value.

These two tables are similar to Tables Nos. 16A, between pages 23 and 24, and 17A, between pages 24 and 25, of the Piscataway Water Company, except that there is no abandoned or removed property in connection with the Raritan Township Water Company. The computation of these tables is similar to Tables Nos. 16A and 17A.

Table No. 23D, between pages 31 and 32, shows how the annual depreciation for the Raritan Township Water Company was obtained.

Development Cost.

The Company has never earned a fair return on the fair value of the property, chiefly due to the delay in the development of the Raritan River project, by reason of which the quantity of water transported has been too small to pay the carrying charges. No dividends have ever been paid and the Company showed a corporate deficit of $27,886.82 on January 1, 1919, as indicated by the Balance Sheet, Table No. 24, between

pages 29 and 30. If interest at 7% on the advances from The Elizabethtown Water Company were added to the fixed charges of the Raritan Township Water Company, the accumulated deficit covering the years 1914 to 1920 alone would amount to $59,914. An appreciable part of the advances from The Elizabethtown Water Company were for the purpose of paying bond interest, the payment of which is guaranteed by that Company. It is evident, therefore, that the development cost on this property has been large. The very least which could be allowed for development cost would be the true amount of the accumulated deficits during the past seven years, or $59,914. It is entitled to an allowance for development cost equal to the deficiency in earnings below 7% per annum on the investment value, compounded annually from the date it commenced operations to the date of the valuation. This would, of course, produce a sum much larger than these corporate deficits.

Going Cost.

In order to ascertain the gross cost of reproduction as a basis for estimating value, I have allowed for going cost 10% of the gross cost of reproduction of the tangible property, or $24,130, as of January 1, 1921. This added to the present value of the tangible property of $231,363, gives a gross present value of $255,493 as of January 1, 1921.

Conclusions.

Considering all of the conditions surrounding this property and the present cost of labor and materials, a value of $250,000 may be assumed as an equitable base for rate making purposes as of January 1, 1921.

Watchung Water Company

METHOD OF VALUATION

The method of valuation used for this Company is the same as that outlined for The Elizabethtown Water Company (see page 1). All of the property of the Watchung Water Company is used and useful for water works purposes.

The original (or bound) inventory was made as of January 1, 1919. I have, however, gone over the books and vouchers of the Company and taken off all new plant added during 1919 and 1920, so that the appraisal as now completed includes all tangible property owned by the Watchung Water Company as of January 1, 1921.

Cost of Reproduction of Tangible Property, January 1, 1919.

The inventories upon which the cost of reproduction of tangible property as of January 1, 1919, is based will be found in Volume II, pages 728 to 841. As in the case of The Elizabethtown Water Company (see page 4) the prices in the inventory are base costs, which include cost of labor, cost of material delivered at the site of the work and contractor's profit and expense.

Table No. 27, between pages 33 and 34, gives the percentage allowances for miscellaneous construction expenses, or overheads, expressed as a per cent of the base cost. As seen at the bottom of this table the average percentage allowances for overheads are as follows:

Contingencies, errors and omissions, ...	3.26%
Administrative, legal and general expenses, ...	1.53%
Engineering and superintendence, ...	3.49%
Taxes and insurance during construction, ...	0.69%
Interest during construction, ...	4.38%

As applied, this makes a total of 13.35% of the base cost allowed for miscellaneous construction expenses.

Table No. 28, between pages 34 and 35, gives the summarized cost of reproducing the property and plant of the Watchung Water Company on January 1, 1919, arranged according to schedules. Column (2) gives the base cost of reproduction obtained directly from the inventory, and Columns (3) to (9) inclusive give the amounts allowed for miscellaneous construction expenses based upon the percentage allowances shown in Table No. 27, between pages 33 and 34. Column (10) gives the gross cost of reproduction which is the base cost plus the cost of miscellaneous construction expenses.

Price Basis.

The values assigned to the real estate and rights of way were obtained from an appraisal made by a local real estate man, to whom inventories and maps of the several parcels to be appraised were submitted.

Structural items were priced on the same basis as the structural items of The Elizabethtown Water Company, as outlined on pages 7 to 9 of this memorandum.

On the price basis used, the cost of reproduction of the tangible property of the Watchung Water Company on January 1, 1919, as shown in Table No. 28, between pages 34 and 35, is $247,034.

Depreciated Value of Tangible Property, Existing January 1, 1919.

Table No. 29, between pages 34 and 35, gives the present or depreciated base cost or present value in Column (2). Column (10) gives the gross depreciated or present value with the addition of the miscellaneous construction expenditures, as shown in Columns (3) to (9). As seen from this table the estimated present value of the tangible property as of January 1, 1919, is $230,748, making the accrued depreciation $16,286.

Value of Tangible Property January 1, 1919, on Other Price Bases.

Table No. 4W, between pages 35 and 36, gives the depreciated value of the property and plant of the Watchung Water Company as of January 1, 1919, and in accordance with the method of pricing outlined on page 11 of this memorandum.

The computation of this table is similar to that of Table No. 4E, already explained on pages 13 and 14. The value of the property according to the various methods may be summed up as follows:

TABLE No. 4X

SUMMARY OF THE VALUE OF THE TANGIBLE PROPERTY AND PLANT OF THE WATCHUNG WATER COMPANY, AS OF JANUARY 1, 1919, BASED ON VARIOUS METHODS OF PRICING

Item (1)	*Per Cent. of Item* (f) (2)	*Gross Cost of Reproduction* (3)	*Gross Depreciated Value January 1, 1919* (4)
(a) At pre-war prices (1909-1914), .	68	$165,513	$155,581
(b) On basis of pre-war prices and property as of 1914, plus actual cost of additions 1914-1918 inclusive,	70	172,924	161,524
(c) Based on ten-year average prices for labor and materials 1911-1920 inclusive,	102	251,975	236,240

(d) Based on prices current in 1920,	172	424,898	396,448
(e) Based on prices current on April 1, 1921, ...	163	402,665	376,345
(f) At prices used in the inventory, .	100	247,034	230,748

TABLE No. 30.

BALANCE SHEET DEC. 31, 1918, WATCHUNG WATER COMPANY.

Assets.

Fixed Capital installed prior to Jan. 1, 1913, ...	$161,746.39
Fixed Capital installed since Dec. 31, 1912, ...	35,575.98
Materials & Supplies, ...	3,689.85
Cash, ...	92.69
Consumers Accounts Receivable, ...	2,492.62
Investments, ...	50.00
Prepayments, ...	43.88
	$203,691.41

Liabilities.

Funded Debt, ...	$80,000.00
Bond Interest Accrued, ...	666.33
Notes Payable, ...	4,050.00
Other Accounts Payable, ...	1,693.61
Unearned Revenue, ...	3,685.20
Accrued Amortization of Capital, ...	17,986.35
Capital Stock, ...	75,000.00
Corporate Surplus, ...	20,609.92
	$203,691.41

Investment.

The value of the tangible property and plant of the Watchung Water Company, as of January 1, 1919, as carried on the books is $201,012.22 (see Balance Sheet, Table No. 30, between pages 35 and 36). This is 81.37% of the estimated cost of reproduction of the tangible property on the price basis used in this appraisal. It is $28,088, or 16.24% higher than the estimated cost of reproduction of the tangible property on the basis of pre-war prices plus the actual cost of additions since 1914. Because of the various changes in ownership through which this Company has passed, it cannot be said without a detailed analysis of the book costs just how close a relationship exists between present book costs and actual costs. It appears, however, from the foregoing figures that the cost now carried on the books is sufficient to include miscellaneous construction expenses or overheads which are properly chargeable against fixed capital account, as well as some development cost.

Capitalization.

The outstanding obligations of the Company as of January 1, 1919, consisted of $75,000 of capital stock and $80,000 of 5% mortgage bonds, making a total capitalization of $155,000. In addition to the stock and bonds, the Company had on January 1, 1919, an unfunded debt consisting of $4,050 of notes payable, $3,000 of which were at 5% and the balance at 6%, making the total outstanding obligations as of that date $159,050. This is $41,962.22 less than the book value of the Company and $13,874, or 8%, less than the cost of reproduction of the tangible property on the basis of pre-war prices plus the actual cost of additions since 1914. It shows that the Company is conservatively capitalized. The Balance Sheet for 1918 (see Table No. 30, between pages 35 and 36) shows a small corporate surplus of $20,609.92, most of which has been reinvested in the property. If this amount is added

to the outstanding obligations of $159,050, the sum checks the cost of reproduction on the basis of pre-war prices plus the actual cost of additions since 1914 of $172,924 very closely, showing that an amount equal to this estimate has actually been invested in the property.

Summary of the Cost of the Tangible Property, January 1, 1919.

Having discussed the results produced by reproduction estimates and the probable actual investment in the property, they may be summarized as follows:

Item. (1)	*Gross Cost of Reproduction.* (2)	*Gross Depreciated Value January 1, 1919.* (3)
(a) At pre-war prices (1909-1914), ...	$165,513	$155,581
(b) On basis of pre-war prices and property as of 1914, plus actual cost of additions 1914-1918 inclusive, ...	172,924	161,524
(c) Based on ten-year average prices for labor and materials, 1911-1920 inclusive,	251,975	236,240
(d) Based on prices current in 1920, ...	424,898	396,448
(e) Based on prices current on April 1, 1921,	402,665	376,345
(f) At prices used in the inventory, ...	247,034	230,748
(g) Investment or book value, ...	201,012	.....
(h) Capitalization, including notes, ...	159,050	.....

Value of Depreciated Property, January 1, 1921.

Table No. 28A, between pages 37 and 38, gives the cost of reproduction of the property and plant of the Watchung Water Company as of January 1, 1921, and Table No. 29 A, between pages 37 and 38, gives the corresponding depreciated value. These tables are similar to Tables No. 16A and 17A respectively of the Piscataway Water Company, the computation of which is explained on pages 23 and 24 of this memorandum.

Table No. 29C, between pages 37 and 38, shows the details of the cost of the additions to the property during 1919 and 1920, as abstracted from the books of the Company.

Table No. 29D, following page 38, gives the computation of the annual depreciation.

Development Cost.

It is evident that the development cost of this Company is large. No dividends have been paid since the acquisition of the Company by its present owners, and the corporate surplus shown on its books is small. (See Balance Sheet, Table No. 30, between pages 35 and 36.) The Company would be entitled to an allowance for development cost equal to the deficiency in earnings below 7% per annum on its investment value compounded annually from the date of its acquisition to the date of valuation.

Going Cost.

In order to ascertain the gross cost of reproduction as a basis for estimating value I have allowed for going cost 10% of the gross cost of reproduction of the tangible property of January 1, 1921, or $26,792. This added to the present value of the tangible property of $244,779 gives a gross present value of $271,571 as of January 1, 1921.

Conclusions.

Considering all the conditions surrounding this property and the present cost of labor and materials, a value of $270,000 may be assumed as an equitable base for rate-making purposes, as of January 1, 1921.

Exhibit P-5—Estimate of Revenue Required.

THE ELIZABETHTOWN WATER COMPANY.

COST OF WATER SERVICE.

Fair Rate of Return.

Having ascertained the fair value of the property for rate making purposes the next question which naturally presents itself is: What rate of return upon the value should be considered? The rule is that the property is entitled to a fair return upon the fair value of the property used and useful for water works purposes. Fair return is largely governed by the cost of financing at any given period of time. In the past courts and commissions have settled upon between 6% and 8% as a fair return on water works properties. I am satisfied that to make a sale of the common stock of The Elizabethtown Water Company at this time in the open market at par it must pay 9% dividends. Bonds could not be issued at less than 7% and notes at 8%. Therefore, I have assumed that 8% would be a fair rate of return to use in connection with the rates.

Fair Net Return.

On the basis of the fair value of $4,080,000. as of January 1, 1921, the fair net return which the Company should receive amounts to $326,400.

Operating Expenses.

Table No. 50, between pages 1 and 2, gives a statement of the revenues, operating expenses and net earnings of The Elizabethtown Water Company for the seven years ending December 31, 1914, 1915, 1916, 1917, 1918, 1919 and 1920.

TABLE No. 50

The Elizabethtown Water Company

COMPARATIVE STATEMENT OF OPERATING REVENUE, OPERATING EXPENSES, DEPRECIATION, NON-OPERATING EARNINGS AND NET RETURN FOR THE YEARS ENDED DECEMBER 31, 1914, 1915, 1916, 1917, 1918, 1919 and 1920

Item (1)	1914 (2)	1915 (3)	1916 (4)	1917 (5)	1918 (6)	1919 (7)	1920 (8)
Operating Revenue:							
Water Revenue (Table No. 51)	$426,852.00	$432,847.87	$482,579.00	$541,853.40	$571,461.34	$602,743.75	$634,740.91
Miscellaneous Operating Revenue (Table No. 51)	2,837.59	3,151.24	2,562.34	756.73	115.62	276.00	.....
Total Operating Revenue	$429,689.59	$435,999.11	$485,141.34	$542,610.13	$571,576.96	$603,019.75	$634,740.91
Operating Expenses:							
Water Supply Expenses (Table No. 52)	$130,672.11	$140,766.54	$162,438.74	$223,237.20	$275,765.39	$296,162.14	$326,551.37
Maintenance Expenses (Table No. 52)	11,062.47	7,800.42	6,249.70	8,674.48	8,679.57	9,205.21	15,778.48
General and Miscellaneous Expenses (Table No. 52)	29,785.36	30,229.89	30,210.28	37,086.79	42,611.55	48,681.24	59,433.56
Taxes (Table No. 52)	22,519.47	23,678.90	23,553.80	29,350.80	55,059.59	69,181.32	68,845.02
Uncollectible Water Bills, etc.	.....	2,467.38	410.93	624.24	17.50	2,341.33	.....
Depreciation	30,835.47	31,256.25	32,554.46	33,201.01	33,600.00	34,981.15	36,977.19
Total Operating Expenses	$224,874.88	$236,199.38	$255,417.91	$332,174.52	$415,733.60	$460,552.39	$507,585.62
Net Operating Earnings	$204,814.71	$199,799.73	$229,723.43	$210,435.61	$155,843.36	$142,467.36	$127,155.29
Non-Operating Revenue (Table No. 51.)	$8,208.92	$8,627.14	$11,800.28	$8,154.96	$9,537.28	$8,314.22	$8,572.97
Less: Non-Operating Taxes and Expenses	283.50	661.84	319.07	335.84	331.74	550.70	624.38
Net Non-Operating Earnings	$7,925.42	$7,965.30	$11,481.21	$7,819.12	$9,205.54	$7,763.52	$7,948.59
Net Earnings or Return for Year	$212,740.13	$207,765.03	$241,204.64	$218,254.73	$165,048.90	$150,230.88	$135,103.88
Deductions from Net Earnings:							
Interest on Bonds	$20,000.01	$20,000.00	$20,000.00	$20,000.00	$20,000.00	$26,666.66	$30,000.00
Other Interest	.....	.....	.....	.....	.....	2,869.45	7,590.00
Total Deductions	$20,000.01	$20,000.00	$20,000.00	$20,000.00	$20,000.00	$29,536.11	$37,590.00
Net Profit for Year	$192,740.12	$187,765.03	$221,204.64	$198,254.73	$145,048.90	$120,694.77	$97,513.88

TABLE No. 51

THE ELIZABETHTOWN WATER COMPANY

STATEMENT SHOWING GROSS WATER REVENUE, MISCELLANEOUS OPERATING REVENUE AND NON-OPERATING REVENUE FOR THE YEARD ENDED DECEMBER 31, 1914, 1915, 1916, 1917, 1918, 1919 and 1920

Item (1)	1914 (2)	1915 (3)	1916 (4)	1917 (5)	1918 (6)	1919 (7)	1920 (8)
Water Revenue:							
Metered Service	$169,830.89	$158,271.87	$197,906.18	$253,173.13	$303,941.77	$361,477.66	$403,646.40
Unmetered Service	250,019.25	266,659.36	276,148.93	280,257.30	259,583.41	232,369.67	221,240.47
Hydrants	6,109.38	6,749.52	7,175.90	7,274.02	7,515.18	7,671.91	7,833.45
Miscellaneous	892.48	1,167.12	1,347.99	1,048.95	420.98	1,224.51	2,020.59
Total Water Revenue	$426,852.00	$432,847.87	$482,579.00	$541,853.40	$571,461.34	$602,743.75	$634,740.91
Miscellaneous Operating Revenue:							
Tapping and Fees	$2,405.00	$2,374.50	$2,156.20	$608.75	.....	.....	.....
Changing Meter Fees	.....	.....	.....	.....	$87.00	.....	.....
Profit on Sales of Material, Hydrants Installed for municipalities, etc.	321.59	776.74	406.14	147.98	28.62	.....	.....
Sales of Scrap	111.00	.....	.....	.....	.....	$84.00	.....
Miscellaneous	.....	.....	.....	.....	.....	192.00	.....
Total Miscellaneous Operating Revenue	$2,837.59	$3,151.24	$2,562.34	$756.73	$115.62	$276.00	.....
Non-Operating Revenue:							
Rents	$829.10	$1,157.10	$1,047.37	$816.01	$724.94	$1,083.15	$1,444.02
Interest on Bank Deposits, etc.	1,271.82	2,204.85	3,239.25	3,438.65	2,577.36	1,032.62	1,044.74
Interest from Other Sources	6,108.00	4,978.00	7,513.66	3,900.30	6,234.98	6,185.03	6,032.76
Miscellaneous	.....	287.19	.....	.....	.....	13.42	51.45
Total Non-Operating Revenue	$8,208.92	$8,627.14	$11,800.28	$8,154.96	$9,537.28	$8,314.22	$8,572.97

TABLE No. 52

THE ELIZABETHTOWN WATER COMPANY

COMPARATIVE STATEMENT OF WATER SUPPLY EXPENSES, MAINTENANCE, EXPENSES, GENERAL AND MISCELLANEOUS EXPENSES AND TAXES FOR THE YEARS ENDED DECEMBER 31, 1914, 1915, 1916, 1917, 1918, 1919 and 1920

Item (1)	1914 (2)	1915 (3)	1916 (4)	1917 (5)	1918 (6)	1919 (7)	1920 (8)
Water Supply Expenses:							
Water Purchased (Table No.)	$76,937.22	$88,448.65	$104,780.28	$144,174.13	$169,264.88	$178,675.92	$182,385.20
Other Collecting System Expenses	1,363.23	1,696.76	1,285.45	1,273.21	2,966.70	3,329.11	2,891.80
Purification System	1,019.92	1,174.52	2,055.38	1,869.82	4,616.35	13,507.96	17,093.04
Pumping System	46,255.65	44,737.08	48,843.97	68,792.58	87,436.27	87,188.61	106,681.68
Distribution System	5,096.09	4,709.53	5,473.66	7,187.46	11,481.19	13,460.54	17,499.65
Total Water Supply Expenses	$130,672.11	$140,766.54	$162,438.74	$223,237.20	$275,765.39	$296,162.14	$326,551.37
Maintenance:							
Collecting System	$1,933.37	$525.33	$622.00	$1,462.97	$543.72	$324.58	$2,337.47
Purification System	10.68	.....	15.60	38.15	10.00	369.35	205.03
Pumping System	4,828.66	3,026.45	2,271.00	1,295.02	1,310.06	1,985.35	1,827.22
Distribution System	4,289.02	4,237.52	3,341.10	5,863.34	6,815.79	6,525.93	11,406.51
General Repairs	74	11.12	.....	15.00	.....	.....	2.25
Total Maintenance Expenses	$11,062.47	$7,800.42	$6,249.70	$8,674.48	$8,679.57	$9,205.21	$15,778.48
General and Miscellaneous Expenses:							
Salaries Officials	$16,229.84	$16,189.84	$16,309.84	$16,034.86	$18,035.78	$18,866.54	$19,495.22
" Clerical	4,401.75	5,640.25	6,212.00	7,002.02	8,799.70	13,144.63	19,705.08
Expenses Official	41.10	74.42	131.28	87.40	159.29	54.36	110.55
" Clerical	.....	45.40	47.75	.....	239.15	436.62	119.35
Office Supplies and Expense	2,166.52	2,564.09	2,917.26	2,894.20	4,036.81	5,297.47	5,029.04
Stable and Auto Expense	3,662.80	3,602.14	2,308.19	3,354.91	5,053.71	7,575.64	10,283.01
Legal	408.44	270.00	90.77	400.74	799.05	190.60	35.00
Insurance	349.48	456.00	456.00	456.00	456.00	456.00	418.00
Injuries and Damages	.....	39.75	102.19	1,040.34	799.00	386.90	1,546.28
Miscellaneous	2,525.43	1,348.00	1,635.00	5.816.32	4,233.06	2,272.48	2,692.03
Total General and Miscellaneous Expenses	$29,785.36	$30,229.89	$30,210.28	$37,086.79	$42,611.55	$48,681.24	$59,433.56
Taxes:							
Municipal	$12,041.78	$13,218.11	$13,241.33	$16,183.68	$19,278.80	$23,207.67	$26,838.38
Franchise	8,256.90	8,317.43	8,206.78	8,937.45	14,896.24	21,018.47	27,739.45
Federal Income	2,220.79	2,143.36	2,105.69	2,718.17	19,419.05	21,109.68	12,375.19
Capital Stock	.....	.....	.....	1,511.50	1,465.50	3,845.50	1,892.00
Total Taxes	$22,519.47	$23,678.90	$23,553.80	$29,350.80	$55,059.59	$69,181.32	$68,845.02

TABLE No. 53

The Elizabethtown Water Company

COMPARATIVE STATEMENT OF WATER PURCHASED FOR THE YEARS ENDED DECEMBER 31, 1914, 1915, 1916, 1917, 1918, 1919 and 1920

Item (1)	1914 (2)	1915 (3)	1916 (4)	1917 (5)	1918 (6)	1919 (7)	1920 (8)
Water Purchased:							
Piscataway Water Company	$10,233.69	$26,637.16	$24,112.11	$20,955.92	$25,340.80	$29,304.40	$28,782.26
Raritan Township Water Company for Transportation of Water from Piscataway Water Company	1,461.95	3,805.26	3,444.60	3,350.79	4,020.27	4,471.48	4,182.96
Short Hills Water Company	17,630.42	18,137.31	17,618.97	17,251.32	16,689.58	18,517.22	19,760.21
Middlesex Water Company	31,348.29	25,384.28	42,946.61	67,428.42	70,964.86	50,912.43	58,472.46
City of Newark	4,361.77	2,219.34	1,531.10	1,804.20	17,543.62	30,905.54	29,558.88
Commonwealth Water Company	1,200.00	1,205.30	1,205.27	1,448.08	1,461.77	2,321.62	2,516.52
Plainfield Union Water Company	2,663.10	705.00	991.20	3,546.82	695.49	616.41	2,297.93
Watchung Water Company	.....	.....	221.42	8,109.51	9,031.51	7,559.90	1,938.25
Piscataway Water Company for Transportation of Water from Watchung Water Company	.....	.....	.....	833.07	798.05	665.30	166.10
City of Rahway	.....	.....	.....	1,950.00	3,423.93	12,400.62	11,722.63
Interest on Advance:							
Middlesex Water Company	.....	.....	1,600.00	5,356.00	5,789.00	6,136.00	6,505.00
Piscataway Water Company	6,593.00	8,415.00	8,934.00	9,595.00	10,499.00	11,535.00	12,707.00
Raritan Township Water Company	1,445.00	1,940.00	2,175.00	2,545.00	3,007.00	3,330.00	3,775.00
Total Water Purchased	76,937.22	$88,448.65	$104,780.28	$144,174.13	$169,264.88	$178,675.92	$182,385.20

The details supporting this statement are shown on Tables Nos. 51 to 53, inclusive, between pages 1 and 2. It is seen from Table No. 50 that the total operating expenses for the year 1920, including taxes and depreciation, amounted to $507,585.62, of which taxes amounted to $68,845.02 and depreciation $36,977.19, leaving $401,763.41 as the operating expenses excluding taxes and depreciation.

In order to ascertain fair rates it was found necessary to increase the operating expenses of The Elizabethtown Water Company to cover the additional revenue required by the Piscataway Water Company, Raritan Township Water Company and the Watchung Water Company in order for them to secure a fair return. These additional revenues will increase the amounts which The Elizabethtown Water Company will have to pay these affiliated companies for the water supplied and transported by them. The Public Utility Commissioners have granted an increase in rates to the Middlesex Water Company as of October 1, 1920, which will also add materially to the cost of the water purchased by The Elizabethtown Water Company.

By reference to Table No. 53 (between pages 1 and 2) it will be seen that The Elizabethtown Water Company made the following payments to the Piscataway Water Company in 1920:

Water purchased,	$28,782
Transportation of water,	166
Interest on advances,	12,707
Total,	$41,655

By reference to page 22, it will be seen that The Elizabethtown Water Company should have made the following payments to the Piscataway Water Company in 1920:

Water purchased,	$33,692
Transportation of water,	97,500
Total,	$131,192

Therefore, The Elizabethtown Water Company should have paid the Piscataway Water Company $89,537 more than it did in 1920 for furnishing and transporting water.

By reference to Table No. 53 (between pages 1 and 2) it will be seen that The Elizabethtown Water Company made the following payments to the Raritan Township Water Company in 1920:

Transportation of water,	$4,183
Interest on advances,	3,775
Total,	$7,958

By reference to page 29, it will be seen that The Elizabethtown Water Company should have paid the Raritan Township Water Company $35,000 for the transportation of water in 1920. Therefore, The Elizabethtown Water Company should have paid the Raritan Township Water Company $27,042 more than it did in 1920.

By reference to page 39, it will be seen that the Watchung Water Company should charge The Elizabethtown Water Company $16,190 for collecting, pumping and delivering water to the Bound Brook main as against $1,938 which the Elizbethtown Water Company paid in 1920. The charge of $16,190 is based upon a use amounting to 101.19 million gallons of water during 1920, or 53.73 million gallons more than the actual amount purchased. The increase was made in order to correct for the temporary abnormal use of water by two of the local customers of the Watchung Water Company. (See page 34.)

A study of the amounts of water purchased by The Elizabethtown Water Company from various other companies and of the water pumped by The Elizabethtown Water Company during 1920 indicates that the deficiency in the Watchung supply, caused by the temporary abnormal use by local customers of that company, was made up by an increase in the amount purchased from the Middlesex Water Company and taken from the Robinson's Branch supply of that Company. In esti-

mating the operating expenses which would prevail under normal conditions, therefore, the quantity of water purchased from the Middlesex Water Company, Robinson's Branch supply, was decreased by 53.73 million gallons. The cost of the water purchased from the Middlesex Water Company was figured at the rates effective under the increase of October 1, 1920, in accordance with which the water from the Park Avenue supply is sold at $47.50 per million gallons, and that from the Robinson's Branch supply at $60.00 per million gallons.

The cost of water purchased from the Middlesex Water Company under normal conditions in 1920 and at the new rates of the Middlesex Water Company is as follows:

Park Avenue Supply 383.17 M. G. at $47.50 = $18,201
Robinson's Branch
Supply 968.93 " " " 60.00 = 58.136

Total, ... $76,337

It is probable that other companies from whom The Elizabethtown Water Company purchases water should receive more revenue than their present charges yield if they are to earn a fair return on the fair value of their property. Any increases granted to these companies would be reflected in the operating expenses of The Elizabethtown Water Company. An increase in the operating expenses would increase the gross income required to earn a fair return on the fair value of the property and thereby raise the State franchise and Federal income taxes which the Company has to pay. While such increases are probable, no allowance has been made for them in the rate calculation.

There were no costs included in the 1920 operating expenses in connection with the property which is not used or useful for water works purposes. Therefore, no deduction was necessary on this account.

Summing up the operating expenses as shown in Table No. 54, between pages 4 and 5, we have a total of $543,955 for the year 1920.

Taxes.

The amount of taxes paid by The Elizabethtown Water Company is given in Table No. 52, between pages 1 and 2, which shows that for 1920 the Company paid as follows:

Municipal, County and State Property Taxes,	$26,838.38
State Franchise Tax,	27,739.45
Federal Income Tax,	12,375.19
State Capital Stock Tax,	1,892.00
Total Taxes,	$68,845.02

TABLE No. 54.

1920 OPERATING EXPENSES MODIFIED FOR USE IN RATE COMPUTATION OF THE ELIZABETHTOWN WATER COMPANY.

Water Supply Expenses:		
Water Purchased:		
Piscataway Water Company,	$131,192	
Raritan Township Water Company,	35,000	
Watchung Water Company,	16,190	
Total for Affiliated Companies,		$182,382
Short Hills Water Company,	$19,760	
Middlesex Water Company,	76,337	
City of Newark,	29,559	

Commonwealth Water Company, ...	2,517	
Plainfield Union Water Company, ...	2,298	
City of Rahway,....	11,723	
Total for Other Companies,...	142,194	
Total for Water Purchased, ...		$324,576
Other Collecting Expenses, ...		2,892
Purification System Expenses, ...		17,093
Pumping System Expenses, ...		106,682
Distribution System Expenses, ...		17,500
Total Water Supply Expenses, ...		$468,743
Maintenance Expenses, ...		15,778
General and Maintenance Expenses, ...		59,434
Total Operating Expenses, ...		$543,955

Unquestionably, if the Company makes an application to the Public Utility Commissioners for an increase of rates and the property goes to valuation, the valuation of the Commission will be used as a basis for taxation, and it is probable the taxes will be increased by not less than 200%, and most likely will be increased more than this. It is best, therefore, to agree to pay taxes on the full valuation of the property and to request the Commission to allow an amount sufficient to pay taxes on this basis. The statement that taxes will be increased in this way is not based upon theory, but upon the experience of the Hackensack Water Company. Prior to valuation in 1914 the taxes of that Company were $96,000, and in 1917 taxes amounted to $213,253.27. I might cite other instances, but this is sufficient.

A careful analysis was made of the probable effect of the valuation herewith submitted upon the amount of taxes which The Elizabethtown Water Company would have to pay if the rates yielded a fair return.

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The inventory value of the property subject to Municipal, County and State taxes, with depreciation as of January 1, 1921, deducted, totals $3,547,539. This amount includes the value of all used and useful property except organization and water diversion rights. It also includes all overheads. The weighted average tax rate for 1920, based upon the assessments made in 1920 and checked by the values used in the inventory, is $2.55 per hundred dollars. The amount of the property taxes based upon the fair value of the taxable property would, therefore, be:

$$\$3,547,579 \times .0255 = \$90,463.$$

The State Franchise Tax is based upon a revenue derived from mains in public highways, streets, etc. The rate is now 5% when the amount subject to tax is more than $50,000, and 2% when the amount is less than $50,000. The proportion of the revenue of The Elizabethtown Water Company derived from the property in public highways is about 95% and the rate to be applied to this revenue is 5%. The total water revenue which the Company should receive with fair rates amounts to $1,128,570 (see page 9), and the corresponding Franchise Tax is:

$$\$1,128,570 \times .95 \times .05 = \$53,607.$$

The Federal Income and Excess Profits Tax has been figured upon the basis of a joint return by The Elizabethtown Water Company and its affiliated water companies. This is in accordance with the requirements of the Federal Government. Due to the increased revenue which the companies should receive with fair rates, the combined Income and Excess Profits Tax will amount to $90,000, computed as shown in Table No. 55, between pages 6 and 7.

The Federal Income and Excess Profits Tax for the four Companies, amounting to $90,000, has been divided among the companies in proportion to the net return, giving the following amounts for each company:

The Elizabethtown Water Company, ...	$68,600
Piscataway Water Company, ...	12,600
Raritan Township Water Company, ...	4,200
Watchung Water Company, ...	4,600
Total, ...	$90,000

The allowance made for the State Capital Stock Tax was the same as that paid by the Company in 1920, namely, $1,892.

Summing up the allowance for taxes used in computing rates we have:

Municipal, County and State Property Taxes,	$90.463
State Franchise Tax, ...	53,607
Federal Income and Excess Profits Tax, ...	68,600
State Capital Stock Tax, ...	1,892
Total, ...	$214,562

TABLE NO. 55.

COMPUTATION OF THE ALLOWANCE FOR FEDERAL INCOME AND EXCESS PROFITS TAX, 1920, BASED ON A JOINT RETURN BY THE ELIZABETHTOWN WATER COMPANY, PISCATAWAY WATER COMPANY, RARITAN TOWNSHIP WATER COMPANY AND WATCHUNG WATER COMPANY.

Net Return:		
The Elizabethtown Water Company, 8% of $4,080,000, ...	$326,400	
Piscataway Water Company, 8% of $750,000, ...	60,000	
Raritan Township Water Company, 8% of $250,000,	20,000	

	Watchung Water Company, 8% of $270,000, ...	21,600	
	Total, 8% of $5,350,000=		$428,000
	Allowance for tax of last year, to be added,		80,000
			$508,000
	Bond and other Interest to be Deducted:		
10	The Elizabethtown Water Company, ...	$37,590	
	Piscataway Water Company,	13,500	
	Raritan Township Water Company, ...	6,250	
	Watchung Water Company,	4,436	
	Total, ...		$61,776
	Total, ...		$446,224
20	Excess Profits Credit:		
	Capital Stock and Surplus:		
	The Elizabethtown Water Company, ...	$2,326,476	
	Piscataway Water Company, ...	— 33,702	
	Raritan Township Water Company, ...	— 21,966	
	Watchung Water Company, Company, ...	98,907	
30	Total Net Invested Capital, ...	$2,369,715	
	Rate, ...	.08	
		$189,577	
	Add exemption, ...	3,000	
			192,577

Amount subject to Excess Profits Tax, ...	$253,647
Excess Profits Tax at 20%, ...	50,729
Amount subject to Income Tax, $446,224 — $50,729, ...	$395,495
Income Tax at 10%, ...	39,550
Total Tax = $50,729 + $39,550, ...	90,279
Use,	90,000

Annual Reserve for Depreciation.

After a careful study of the probable life of the component parts which constitute the property and plant of the Elizabethtown Water Company, I have come to the conclusion that a fair annual reserve for depreciation will be 1.5% of the cost of reproduction of the depreciable property. On this basis the annual reserve for depreciation on the property existing on January 1, 1920, is $53,070, as shown in Table No. 7F, Column (10), line q, between pages 17 and 18 of VOLUME III.

Gross Income Required.

On the basis outlined above the gross income required to yield a fair return on the fair value of the property as of January 1, 1921, is as follows:

Fair Net Return, 8% of $4,080,000,		= $326,400
Operating Expenses:		
Water purchased from affiliated companies, ...	$182,382	
Other operating expenses, ...	361,573	
Total, ...	$543,955	543,955
Taxes, ...		214,562
Reserve for depreciation, ...		53,070
Total Gross Income Required for 1920, ...		$1,137,987

Compared with this gross income, the revenue which the Company received in 1920 was $642,689, as follows (see Table No. 50, between pages 1 and 2):

Operating Revenue, ...	$634,741
Net Non-operating Earnings, ...	7,948
Total, ...	$642,689

The Company should have obtained, therefore, 1.77 times that which it did receive in 1920 in order to earn a fair return of 8% on the fair value of the property.

Fair Rates.

In order that the return upon the investment in the plant shall be fair, the gross revenue for the sum total derived from the rates should be sufficient to pay operating expenses, taxes and a proper reserve for depreciation, in addition to the fair net return. This fixed sum amounts to $1,137,987 (see page 7) for The Elizabethtown Water Company and represents the return which the plant must earn under all the circumstances and conditions surrounding its operation.

With regard to The Elizabethtown Water Company and its affiliated companies, the problem of establishing a rate schedule may be outlined as follows:

A. Determine the gross revenue required to yield a fair return on the fair value of the property plus proper allowance for operating expenses, taxes, and a reasonable annual reserve for depreciation.

B. Establish the incidence of the rates by:
   a. Subdividing the gross revenue between service revenue and miscellaneous receipts.
   b. Subdividing the service revenue between The Elizabethtown Water Company and the local customers (this applies only to affiliated companies).

c. Subdividing the total service revenue to be paid by the local customers between fire service revenue and general water service revenue.

Because these companies are but partially metered, it is not feasible further to subdivide the rate schedule, as an equitable schedule of rates can only be predicated upon the quantity of water used by individual customers, and this is indeterminate in the case of a water system which is either wholly or partially metered.

Subdivision of Gross Revenue Between Service Revenue and Miscellaneous Receipts.

The first step in the allocation of the rates is to deduct miscellaneous receipts from the gross revenue to ascertain the gross service revenue which must be raised from fire service and general water service revenue. This operation is indicated in Table No. 56, between pages 9 and 10. From this table it is seen that of the total required gross revenue of $1,137,987, $9,417 will be received from miscellaneous receipts, leaving $1,128,570, which must be derived from service revenue.

The miscellaneous receipts are based upon the average amounts from 1916 to 1920 inclusive, taken from Table No. 51, between pages 1 and 2. They are as follows:

Operating Revenue:		
Tapping fees,	$553	
Changing meter fees,	17	
Profits on sales of materials, etc.,	116	
Sales of scrap,	17	
Miscellaneous,	38	
Total,	$741	$741

Non-Operating Revenue:		
Rents, total, ...	$1,023	
Rental, brick warehouse at $50 per month, ...	600	
Net amount, ...	$423	
Interest on bank deposits, etc., ..	2,267	
Interest from other sources, ...	5,973	
Miscellaneous, ...	13	
Total, ...	$8,676	8,676
Total Miscellaneous Receipts, ...		$9,417

Table No. 56.

Allocation of required gross revenue of the Elizabethtown Water Company.

Fair Net Return, 8% on $4,080,000, ...	$326,400
Operating Expenses, ...	543,955
Taxes, ...	214,562
Annual Depreciation Reserve, ...	53,070
Total Gross Revenue Required, ...	$1,137,987

Allocation of Gross Revenue.

Item. (1)	*Per Cent.* (2)	*Amount.* (3)
A. Subdivision of Gross Revenue between:		
Service Revenue, ...	99.17	$1,128,570
Miscellaneous Receipts, ..	.083	9,417
Total Gross Revenue, ...	100.00	$1,137,987

B. Subdivision of Total Service Revenue:		
Fire Service Revenue, ...	15.00	$169,285
General Water Service Revenue, ...	85.00	959,284
Total Service Revenue,..	100.00	$1,128,570

The water revenue produced by the present rates in 1920 amounted to $634,741 (see Table No. 50, Column (8), between pages 1 and 2), as compared with the $1,128,570 required in order to meet operating expenses, taxes and depreciation and to pay a fair return on the fair value of the property. This is an increase of $493,829, or 78%.

Subdivision of Total Service Revenue Between Fire Service Revenue and General Water Service Revenue.

The next step in the operation is to deduct the fire service revenue from the total service revenue to ascertain the revenue to be derived from general water service. This is also shown on Table No. 56, between pages 9 and 10.

Detailed analysis of various water works plants to ascertain what proportion of the fixed charges and operating expenses is chargeable to fire service indicates that 15% of the total service revenue of companies similar to the Elizabethtown Water Company is a fair fire service cost.

The following per cents, determined in connection with other valuations, form the basis of the above statement:

	Per Cent. of Total Service Revenue Chargeable to Fire Service.
Hackensack Water Company, ...	12.5
The Ansonia Water Company, ...	10.5
Consolidated Water Company of Suburban New York, ...	14.5
Commonwealth Water Company, ..	18.7

The cost of the fire service furnished by The Elizabethtown Water Company, based on 15% of the total service revenue of $1,128,570, amounts to $169,286. The hydrant rentals received in 1920 were only $7,833. (See Table No. 51, between pages 1 and 2.) The cost of fire service is, therefore, 21.6 times the revenue yielded by the present average hydrant charge of $10.65 per year.

There are 9,832,916 inch-feet of mains connected with The Elizabethtown Water Company, including that portion of the Bound Brook main which is owned by the Piscataway Water Company and the Raritan Township Water Company, and there are 24 Company owned hydrants and 711 city owned hydrants, a total of 735 hydrants.

The fair net return, taxes, depreciation and maintenance on hydrants amount to about $10.00 per hydrant per year, and the repairs and maintenance alone to $2.00. The hydrant revenue, based on charges corresponding to these costs, would be:

24 hydrants at $10.00, ...	= $240
711 " " 2.00, ...	= 1,422
Total, ...	$1,662

The remaining fire service costs, amounting to $167,624 ($169,286 — 1,662) if paid on the inch foot basis, would require an inch-foot charge of $0.017.

Deducting the $169,286 of fire service cost from the total service revenue of $1,128,570 leaves $959,284 to be received from general water service rates. The present rates for general water service produced in 1920 a revenue of $626,908 made up as follows (see Table No. 51, between pages 1 and 2):

Metered service,	$403,646
Unmetered service,	221,241
Miscellaneous water service,	2,021
Total,	$626,908

A fair schedule of rates, therefore, should produce a revenue which will exceed that obtained by means of the present rates by $332,376 or 53%. In other words, the present schedule of rates for metered, unmetered and miscellaneous water service should be increased by 53% in order to meet the cost of supplying this service.

Fair Rates.

In order to pay a fair return on the fair value of the property used and useful for water works purposes and at the same time to pay all operating expenses and taxes and to put aside a proper reserve for depreciation, I find that The Elizabethtown Water Company should modify its rates as follows:

1. Present rates for domestic service, both metered and unmetered, and miscellaneous, should be increased by 53%.

2. The fire service revenue should be obtained from annual fire service charges of $0.017 per inch-foot of mains 6" and larger, and of $10.00 per hydrant for Company owned hydrants and of $2.00 for City owned hydrants.

These rates will produce a revenue as follows:

General Water Service Reserve:		
Yield by present rates, ...	$626,908	
Additional yield due to 53% increase, ...	332,261	
Total, ...	$959,169	$959,169
Fire Service Revenue:		
9,832,916 inch-feet at $0.017,..	$167,160	
24 hydrants at $10.00 each, ...	240	
711 " " $2.00 each, ...	1,422	
Total, ...	$168,822	168,822
Total Service Revenue, ...		$1,127,991
Miscellaneous Revenue (see page 9), ...		9,417
Gross Income, ...		$1,137,408

PISCATAWAY WATER COMPANY.

Cost of Water Service.

Fair Net Return.

Based upon the fair value of the property, $750,000, and a fair rate of return of 8%, the fair net return which the Company should receive amounts to $60,000.

TABLE No. 57

Piscataway Water Company

COMPARATIVE STATEMENT OF OPERATING REVENUE, OPERATING EXPENSES, DEPRECIATION AND NET RETURN FOR THE YEARS ENDED DECEMBER 31, 1914, 1915, 1916, 1917, 1918, 1919 and 1920

Item (1)	1914 (2)	1915 (3)	1916 (4)	1917 (5)	1918 (6)	1919 (7)	1920 (8)
Operating Revenue:							
Metered private service	.....	$42.05	$78.45	$74.05	$34.32	$56.00	$117.28
Unmetered private service	$343.80	316.10	596.83	683.46	831.63	965.05	2,407.64
The Elizabethtown Water Company	10,233.69	26,637.16	24,112.11	20,955.92	25,340.80	29,304.37	28,782.29
Raritan Township Water Company	.....	162.00	162.00	162.00	162.00	162.00	162.00
Bound Brook Water Company	.....	.....	.....	310.75	53.78	.....	.....
Miscellaneous water service	10.17	8.50	5.00	16.00	95.00	10.00	65.00
Hydrant rentals	.....	37.08	93.75	75.00	75.00	.....	150.00
Transportation of water, The Elizabethtown Water Company	.....	.....	.....	833.07	798.05	665.30	166.10
Tapping fees	106.00	67.00	32.00	20.00	.....	.....	.....
Miscellaneous operating revenue	48.40	.....	.....	.....	3.76	266.00	.....
	$10,742.06	$27,269.89	$25,080.14	$23,130.25	$27,394.34	$31,428.72	$31,850.31
Less: Rebates and allowances	10.85	87.35	18.45	8.35	35.45	.....	.....
Total Operating Revenue	$10,731.21	$27,182.54	$25,061.69	$23,121.90	$27,358.89	$31,428.72	$31,850.31
Operating Expenses:							
Water supply expenses (Table No. 58)	$2,223.43	$7,225.56	$7,672.59	$12,133.13	$14,018.75	$14,335.81	$21,686.22
Maintenance expenses (Table No. 58)	41.37	89.93	.....	182.87	829.97	526.39	883.85
General and miscellaneous expenses (Table No. 58)	22.02	533.99	803.37	752.67	906.33	831.33	814.90

Item (1)	1914 (2)	1915 (3)	1916 (4)	1917 (5)	1918 (6)	1919 (7)	1920 (8)
Taxes	469.83	2,053.30	3,085.26	3,578.23	3,785.32	3,655.95	4,717.55
Depreciation	.....	8,004.05	8,003.85	8,168.73	8,168.73	8,197.03	8,297.45
Total Operating Expenses	$2,756.65	$17,906.83	$19,565.07	$24,815.63	$27,709.10	$27,546.51	$36,399.97
Net Operating Earnings	$7,974.56	$9,275.71	$5,496.62	$1,693.73	$350.21	$3,882.21	$4,549.66
Non-Operating Revenue:							
Rent	$49.18	$36.00	.....	$33.00	.....	$67.50	.....
Interest	29.78	244.95	$323.14	232.68	$104.60	55.52	$39.79
	$78.96	$280.95	$323.14	$265.68	$104.60	$123.02	$39.79
Less: Non-operating taxes	.....	21.61	38.29	17.04	17.28	56.68	54.72
Net Non-operating Earnings	$78.96	$259.34	$284.85	$248.64	$87.32	$66.34	$14.93
Net Earnings or Return for Year	$8,053.52	$9,535.05	$5,781.47	.....	.....	$3,948.55	.....
Net Deficit for Year	.....	.....	.....	$1,445.09	$262.89	.....	$4,564.59
Deductions from Net Earnings:							
Interest on funded debt	$3,375.00	$13,500.00	$13,500.00	$13,500.00	$13,500.00	$13,500.00	$13,500.00
Interest on advances from The Elizabethtown Water Company	6,593.00	8,415.00	8,934.00	9,595.00	10,499.00	11,535.00	12,707.00
Other Interest	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00
Total Deductions	$11,168.00	$23,115.00	$23,634.00	$24,295.00	$25,199.00	$26,235.00	$27,407.00
Net Loss for Year	$3,114.48	$13,579.95	$17,852.53	$25,740.09	$25,461.89	$22,286.45	$31,971.59

TABLE No. 58

PISCATAWAY WATER COMPANY

COMPARATIVE STATEMENT OF WATER SUPPLY EXPENSES, MAINTENANCE EXPENSES, GENERAL AND MISCELLANEOUS EXPENSES FOR THE YEARS ENDED DECEMBER 31, 1914, 1915, 1916, 1917, 1918, 1919 and 1920

Item (1)	1914 (2)	1915 (3)	1916 (4)	1917 (5)	1918 (6)	1919 (7)	1920 (8)
Water Supply Expenses:							
Collecting System	.....	$4.80	.....	$17.00	$17.50	$85.56	$96.84
Purification System	$84.73	159.16	$180.67	34.74	174.81	.....	.....
Pumping System	2,127.20	6,998.24	7,464.67	12,067.20	13,817.75	14,224.40	21,589.38
Distribution System	11.50	63.36	27.25	14.19	8.69	25.85	.....
Total Water Supply Expenses	$2,223.43	$7,225.56	$7,672.59	$12,133.13	$14,018.75	$14,335.81	$21,686.22
Maintenance Expenses:							
Collecting System	$16.27	$40.00	.....	.....	$11.70	.....	.....
Purification System	.....	.....	.....	.....	.....	$8.15	.....
Pumping System	25.10	49.93	.....	$162.59	818.27	512.64	$880.77
Distribution System	.....	.....	.....	20.28	.....	5.60	3.08
General	.....	.....	.....	.....	.....	.....	.....
Total Maintenance	$41.37	$89.93	.....	$182.87	$829.97	$526.39	$883.85
General Miscellaneous:							
Administration	.....	$388.19	$704.49	$673.65	$611.96	$671.85	$656.42
Accounting and Commercial	$22.02	83.20	31.52	10.66	19.70	8.75	25.00
Insurance	.....	22.80	27.36	27.36	216.02	93.48	93.48
Injuries and Damages	.....	.....	.....	.....	.....	57.25	.....
Uncollectible Bills	.....	19.80	.....	.....	.....	.....	.....
Miscellaneous	.....	20.00	40.00	41.00	58.65	.....	40.00
Total General and Miscellaneous	$22.02	$533.99	$803.37	$752.67	$906.33	$831.33	$814.90

Operating Expenses.

Table No. 57, between pages 13 and 14, gives a statement of the revenues, operating expenses, depreciation and net return of the Piscataway Water Company for each of the seven years ending December 31, 1914, to 1920 inclusive. The details of the operating expenses are given in Table No. 58, between pages 13 and 14. It is seen from Table No. 57 that the total expenses of operation for the year 1920, were $36,399.97, of which taxes amounted to $4,717.55 and depreciation $8,297.45, leaving $23,384.97 as the expenses of operation excluding taxes and depreciation. No modification of this was found necessary in connection with the determination of the cost of the water service, and the operating expenses were, therefore, taken as $23,385, exclusive of taxes and depreciation.

Taxes.

The taxes of the Piscataway Water Company, namely, Municipal, County and State Property Taxes, State Franchise Tax, Federal Income and Excess Profits Tax and State Capital Stock Tax, were computed by the same methods outlined for The Elizabethtown Water Company (see pages 5 and 6).

The weighted average tax rate for 1920 for the taxable property of the Piscataway Water Company is $3.00 per hundred dollars of value.

The gross depreciated value of the taxable property of the Company as of January 1, 1921, is $756,697. Therefore, the Municipal, County and State Property taxes, based on the valuation in the inventory, would be $756,697 × .0300 = 22,701.

The proportion of the water revenue which the Company derives from property in public highways, streets, etc., is about 85%. Therefore, the State Franchise tax will be based upon 85% of the water revenue which fair rates will yield. The tax rate in the case of this Company is 5%. The total service revenue of the Company with a fair schedule of rates in force would be

$135,482 (see page 16). Therefore, the amount of the State Franchise tax would be:

$$\$135,482 \times .85 \times .05 = \$5,758.$$

The Federal Income and Excess Profits tax which the Piscataway Water Company would have paid in 1920 with fair water rates amounts to $12,600. This is its proportion of the total Federal Income and Excess Profits tax as determined by the joint return made by The Elizabethtown Water Company and the three affiliated water companies (see page 6).

As the Piscataway Water Company paid no Capital Stock tax in 1920, no allowance was made for this tax in the rate computations.

The following summary gives the total amount of taxes which the Piscataway Water Company would pay with a fair schedule of rates in effect:

Municipal, County and State Property Tax,..	$22,701
State Franchise Tax, ...	5,758
Federal Income Tax, ...	12,600
Total, ...	$41,059

Annual Reserve for Depreciation.

Figuring depreciation reserve on the basis of 1.5% per annum on the cost of reproduction of the depreciable property, the annual reserve for depreciation for the year 1920, based upon the values in the inventory, would be $11,236, as shown in Table No. 17D, Column (10), Line 0, between pages 24 and 25 of VOLUME III.

Gross Income Required.

On the basis above outlined, the gross cost of supplying water amounts to:

Net Return, 8% on $750,000, ...	$60,000
Operating Expenses, ...	23,385
Taxes, ...	41,059
Reserve for Depreciation, ...	11,236
Total, ...	$135,680

Therefore, the gross income required by the Piscataway Water Company to pay a fair return on the fair value of the property and to pay all operating expenses and taxes and set aside a proper reserve for depreciation should be $135,680.

Compared with this gross income, the revenue which the Company received in 1920 amounted to $44,542, as follows (Table No. 57, between pages 13 and 14):

Operating Revenue,	$31,850
Net Non-Operating Earnings,	15
	$31,835
Interest on Advances,	12,707
Total,	$44,542

The Company should have obtained, therefore, over three times that which it did receive in 1920 in order to earn a fair return of 8% on the fair value of the property.

Fair Rates.

Subdivision of Gross Revenue Between Service Revenue and Miscellaneous Receipts.

The first step in the allocation of rates is to take the miscellaneous receipts from the gross revenue in order to ascertain the gross service revenue which must be raised by fire service and general water service charges. This operation is indicated in Table No. 59, between pages 16 and 17. From this table it is seen that of the total required gross revenue of $135,680, $198 will be received from fiscellaneous receipts, leaving $135,482, which must be derived from service revenue.

The miscellaneous receipts are based upon the average amounts for 1916 to 1920 inclusive, taken from Table No. 57, between pages 13 and 14. They are as follows:

Tapping fees,	$10
Miscellaneous operating revenue,	54
Net non-operating earnings,	134
Total,	$198

The service revenue received by the Piscataway Water Company in 1920, under the present rates, amounted to $31,850. (See Table No. 57, Column (8), between pages 13 and 14.) Two modifications had to be made in this revenue in order to obtain an amount corresponding to normal operations. The first modification was due to the temporary abnormal use of water by the local customers of the Watchung Water Company (page 34). If the use of water by these local consumers had been normal in 1920, they would have used 53.73 million gallons less than they did, and The Elizabethtown Water Company would have received that much more from the Watchung Water Company and would have paid the Piscataway Water Company $3.50 per million gallons for the transportation thereof through its portion of the Bound Brook main. Therefore, the actual operating revenue for 1920 should be increased by 53.73 million gallons at $3.50 per million gallons, or $188.

The other modification in the actual operating revenue was due to the fact that the hydrant rentals for 1919 and 1920 were included with the 1920 revenue. Therefore, one-half of the $150 of hydrant rentals for 1920 was deducted from the total operating revenue.

TABLE NO. 59

ALLOCATION OF REQUIRED GROSS REVENUE OF PISCATAWAY WATER COMPANY

Fair Net Return, 8% on $750,000,	$60,000
Operating Expenses,	23,385
Taxes,	41,059
Annual Depreciation Reserve,	11,236
Total Gross Revenue Required,	$135,680

Allocation of Gross Revenue

Item. (1)	Per Cent. (2)	Amount. (3)
A. Subdivision of Gross Revenue between		
Service Revenue, ...	99.85	$135,482
Miscellaneous Receipts, ...	0.15	198
Total Gross Revenue, ...	100.00	$135,680
B. Subdivision of Total Service Revenue:		
Service Revenue from Local Consumers, ...	3.09	$4,188
Service Revenue from The Elizabethtown Water Company, ...	96.91	131,294
Total Service Revenue,..	100.00	$135,482
C. Subdivision of Service Revenue from Local Consumers:		
Fire Service Revenue, ...	50.36	$2,109
General Water Service Revenue, ...	49.64	2,079
Total Service Revenue from Local Consumers,	100.00	$4,188

We have then as a total service revenue for 1920 under normal conditions of operation:

Actual receipts during 1920, ...	$31,850
Additional for temporary abnormal use of water by local consumers of the Watchung Water Company, ...	188
	$32,038

Deduction for 1919 hydrant rentals included with the 1920 revenue, ... 75

Total Service Revenue 1920 (normal conditions), ... $31,963

Hence the water service revenue required by the Piscataway Water Company in order to enable it to pay operating expenses and taxes, set aside a proper depreciation reserve and receive a fair return on the fair value of its property, namely, $135,482 (See page 16), should exceed the above service revenue of $31,963 by $103,519.

Subdivision of Service Revenue Between the Local Customers and the Elizabethtown Water Company.

All the costs in connection with the water service may be divided into three natural divisions as follows:

a. The cost of supplying water based upon the fair return, taxes, depreciation and operating expenses connected with the collecting and the pumping of water.

b. The cost of transporting the water based on the fair return, taxes, depreciation and maintenance expenses in connection with the transmission mains.

c. The costs involved in the distribution of water, such as the general and miscellaneous expenses, fair return, taxes, depreciation and operating expenses in connection with the distribution system.

The first class would vary somewhat in proportion to the amount of water supplied and the charge for its service should be a proportional rate per million gallons. These costs should be paid by both The Elizabethtown Water Company and the local customers in proportion to the amount of water that each uses. The cost of transporting the water should be an annual fixed sum or transportation charge and should be levied wholly against The Elizabethtown Water Company. The distribution costs and general expenses are charge-

able wholly to the local customers and should be paid for at the local customers' rates.

An analysis was made of the cost of collecting and pumping the water and results are given in the following summary:

Fair return	$6,120
Operating expenses	22,567
Taxes	4,188
Depreciation	1,146
Total	$32,021

The amount of water sold in 1920 to both The Elizabethtown Water Company and the local customers was approximately 832 million gallons. Therefore, the cost of supplying this water was $34,021 ÷ 832 = $40.89 per million gallons.

Dividing the cost of this service between the local customers and The Elizabethtown Water Company on the basis of $40.89 per million gallons gives:

Local customers, 10.34 million gallons at $40.89,	$423
The Elizabethtown Water Company, 821.75 million gallons at $40.89	33,598
Total	$34,021

The costs in connection with the transportation of water, the fair return, taxes, depreciation and maintenance of the Bound Brook main are as follows:

Fair return	$52,200
Taxes	35,721
Depreciation	9,775
Maintenance (none in 1920)	0
Total	$97,696

These costs are fixed and do not vary with the quantity of water passing through the main. Hence the charge for this service should be a fixed amount and I have, therefore, assumed that The Elizabethtown Water Company will pay an annual transportation charge of $97,500.

The general and miscellaneous expenses and all costs connected with the distribution system are shown by analysis as follows:

Fair return	$1,680
Operating expenses	818
Taxes	1,150
Depreciation	315
Total	$3,963
Less miscellaneous receipts	198
Net cost	$3,765

Practically all of these costs are chargeable to the local customers and should be paid out of the revenues received by means of the local rates.

Summarizing, we have the following subdivision of the total service revenue between the local customers and The Elizabethtown Water Company:

Item.	Local Customers.	The Elizabethtown Water Company.	Total.
(1)	(2)	(3)	(4)
Collecting and pumping costs	$423	$33,598	$34,021
Transportation costs,	0	97,696	97,696
Distribution and general expenses	3,765	0	3,765
Total	$4,188	$131,294	$135,482
Per cent.	3.09	96.91	100.00

Subdivision of Service Revenue from Local Customers Between Fire Service Revenue and General Water Service Revenue.

Investigation of the cost of a water works system required for fire protection made by Messrs. Metcalf, Kuichling and Hawley (American Water Works Association, Proceedings 1911, p. 86), and verified by our own analysis of various plants, disclosed that for a small company like the Piscataway Water Company about 65 per cent. of the cost of the plant and 7 per cent. of the operating expenses allocated to the local customers are chargeable to fire service.

The cost of supplying the local customers can be divided between operating expenses and other costs (covering fair return, taxes and depreciation) as follows

Item. (1)	Operating Expenses. (2)	Other Costs. (3)	Total Service Revenue. (4)
Collecting and pumping costs	$280	$143	$423
Distribution and general	777	2,988	3,765
Total	$1,057	$3,131	$4,188

Applying the above per cents to this subdivision of the service revenue gives a fire protection cost as follows:

Operating Expenses	$1,057 × .07 =	$74
Other Costs	3,131 × .65 =	2,035
Total	$4,188 × .50 =	$2,109

The hydrant rentals received in 1920 were only $75. (See page 16.) The cost of fire service is, therefore,

over 28 times the revenue yielded by the present hydrant charge of $15 per hydrant per year.

There are 45,024 inch-feet of distribution mains and 5 hydrants owned by the Piscataway Water Company. At $10.00 per hydrant (see page 11) the hydrant revenue would be $50. The remaining fire service costs, amounting to $2,059 (= $2,109 — 50), if paid on the inch-foot basis, would require an inch-foot charge of $.046.

Deducting the fire service cost ($2,109) from the total service revenue ($4,188, see page 20) to be paid by the local customers to the Piscataway Water Company, leaves $2,079 as general water service revenue to be obtained from the rates paid by the local consumers.

The general water service revenue paid by the local customers in 1920 under the present rates was as follows (see Table No. 57, between pages 13 and 14):

Metered private service	$117
Unmetered private service	2,408
Raritan Township Water Company	162
Miscellaneous water service	65
Total	$2,752

The general water service revenue required from the local customers is, therefore, somewhat less than that which the present rates bring.

Fair Rates.

In order to pay a fair return on the fair value of the property used and useful for water works purposes and at the same time to pay all operating expenses and taxes and to put aside a proper reserve for depreciation, I find that the Piscataway Water Company should modify its rates as follows:

1. Present rates for domestic service, both metered and unmetered, and miscellaneous should remain as they are.

2. The fire service revenue should be obtained from annual fire service charges of $.040 per inch-foot of mains 6″ and larger, and of $10.00 per hydrant for Company owned hydrants.

3. The Elizabethtown Water Company should pay a rate of $41 per million gallons for all water which it receives from the Piscataway Water Company and in addition to this it should pay the Piscataway Water Company a fixed annual charge of $97,500 for transporting the water supplied by that Company and the Watchung Water Company.

These rates will produce a revenue as follows:

General Water Service Revenue:

Local Customers:		
Revenue from present rates in 1920 (see p. 21)		$2,752
The Elizabethtown Water Company:		
Collecting and pumping water, 821.75 million gallons at $41 per million gallons	$33,692	
Transporting water supplied by the Piscataway Water Company and the Watchung Water Company	97,500	
		131,192
Total General Water Service Revenue		$133,944

Fire Service Revenue:

Inch-Foot Charge:		
45,204 inch-feet at $0.40 per inch-foot	$1,808	
Hydrant Charge:		
5 hydrants at $10.00 each	50	1,858
Total Service Revenue		$135,802
Miscellaneous Receipts		198
Gross Revenue		$136,000

RARITAN TOWNSHIP WATER COMPANY.

Cost of Water Service.

Fair Net Return.

Based upon the fair value of the property, $250,000, and a fair rate of return of 8%, the fair net return which the Company should receive amounts to $20,000.

TABLE No. 60

Raritan Township Water Company

COMPARATIVE STATEMENT OF OPERATING REVENUE, OPERATING EXPENSES, DEPRECIATION AND NET RETURN FOR THE YEARS ENDED DECEMBER 31, 1914, 1915, 1916, 1917, 1918, 1919 and 1920

Item (1)	1914 (2)	1915 (3)	1916 (4)	1917 (5)	1918 (6)	1919 (7)	1920 (8)
Operating Revenue:							
Unmetered private service	$490.48	$184.15	$179.55	$272.75	$217.58	$353.74	$290.09
Transporting Water, The Elizabethtown Water Company	1,461.95	3,805.26	3,444.60	3,350.79	4,020.27	4,471.48	4,182.96
Tapping and Fees	.....	6.00	21.00	5.00	.....	.....	.....
Total Operating Revenue	$1,952.43	$3,995.41	$3,645.15	$3,628.54	$4,237.85	$4,825.22	$4,473.05
Operating Expenses:							
Water Purchased	$55.35	$162.00	$162.00	$162.00	$162.00	$162.00	$162.00
Other Water Supply Expenses	.....	.....	.....	7.00	.....	.....	.....
Maintenance Expenses	15.00	.....	.....	.....	.....	.....	.....
General and Miscellaneous Expenses	25.00	64.12	60.86	57.84	63.50	60.05	55.85
Taxes	253.12	988.14	1,008.25	1,132.21	1,334.90	1,541.38	2,031.52
Depreciation	.....	3,307.03	3,312.94	3,314.51	3,314.51	3,314.51	3,314.51
Total Operating Expenses	$348.47	$4,521.29	$4,544.05	$4,673.56	$4,874.91	$5,077.94	$5,563.88
Net Operating Earnings	$1,603.96	.....	.....	.....	.....	.....	.....
Net Operating Losses	.....	$525.88	$898.90	$1,045.02	$637.06	$252.72	$1,090.83
Non-Operating Earnings:							
Interest on Bank Balance	.....	$50.02	$24.27	$26.29	$53.00	$23.28	$34.64
Net Deficit for Year	.....	$475.86	$874.63	$1,018.73	$584.06	$229.44	$1,056.19
Net Earnings or Return for Year	$1,603.96	.....	.....	.....	.....	.....	.....
Deductions from Net Earnings:							
Interest on Funded Debt	$1,562.50	$6,250.00	$6,250.00	$6,250.00	$6,250.00	$6,250.00	$6,250.00
Interest on Advances from The Elizabethtown Water Company	1,445.00	1,940.00	2,175.00	2,545.00	3,007.00	3,330.00	3,775.00
Total Deductions	$3,007.50	$8,190.00	$8,425.00	$8,795.00	$9,257.00	$9,580.00	$10,025.00
Net Loss for Year	$1,403.54	$8,665.86	$9,299.63	$9,813.73	$9,841.06	$9,809.44	$11,081.19

Operating Expenses.

Table No. 60, between pages 23 and 24, gives a statement of the revenues, operating expenses, depreciation and net return of the Raritan Township Water Company for the seven years ending December 31, 1914, to 1920, inclusive.

The operating expenses in 1920, as shown by this table, were as follows:

Water purchased from the Piscataway Water Company	$162 10
General and miscellaneous expenses	56
Total	$218

Taxes.

The taxes of the Raritan Township Water Company, namely, Municipal, County and State Property tax, State Franchise tax, Federal Income and Excess Profits tax and State Capital Stock tax, were computed by the same methods outlined for The Elizabethtown Water Company (see pages 5 and 6).

The 1920 tax rate for the Raritan Township Water Company was $3.56 per hundred dollars and I have used a rate of $3.50 per hundred dollars in estimating the amount of the property taxes which the Company will have to pay. The gross depreciated value of the taxable property of the Company as of January 1, 1921, is $227,401. Therefore, the Municipal, County and State Property tax, based on the valuation in the inventory, would be:

$$\$227,401 \times .0350 = \$7,959$$

The proportion of the water revenue which the Company derives from property in public highways, streets, etc., is about 25%. Therefore, the State Franchise tax will be based upon 25% of the water revenue which fair rates will yield. The tax rate in the case of this Company is 2%. The total water revenue of the Company with a fair schedule of rates in force would be

$35,694 (see page 26). Therefore, the amount of the State Franchise tax will be:

$$\$35,694 \times .25 \times .02 = \$179$$

The Federal Income and Excess Profits tax which the Raritan Township Water Company would have paid in 1920 with fair water rates amounts to $4,200. This is its proportion of the total Federal Income and Excess Profits tax as determined by the joint return made out for The Elizabethtown Water Company and the three affiliated water companies. (Page 6.)

As the Raritan Township Water Company paid no Capital Stock tax in 1920, no allowance was made for this tax in the rate computations.

The following summary gives the total amount of taxes which the Raritan Township Water Company would pay with a fair schedule of rates in effect:

Municipal, County and State Property tax,	$7,959
State Franchise tax,	179
Federal Income tax,	4,200
Total,	$12,338

Annual Reserve for Depreciation.

Figuring depreciation reserve on the basis of 1.5% per annum of the cost of reproduction of the depreciable property as of January 1, 1920, the annual reserve for depreciation of the present water plant during 1920 would amount to $3,175, as shown on Table No. 23D, Column (10), line i, between pages 31 and 32 of Volume III.

Gross Income Required.

On the basis above outlined the gross cost of supplying water amounts to:

Net Return, 8% on $250,000,	$20,000
Operating Expenses,	218
Taxes,	12,338
Reserve for Depreciation,	3,175
Total,	$35,731

Therefore, the gross income required by the Raritan Township Water Company to pay a fair return on the fair value of the property and to pay all operating expenses and taxes and set aside a proper reserve for depreciation should be $35,731.

Compared with this gross income, the revenue which the Company received in 1920 was $8,283, as follows (Table No. 60, between pages 23 and 24):

Operating Revenue,	$4,473
Non-operating Earnings,	35
Interest on Advances,	3,775
Total,	$8,283

The Company should have obtained, therefore, over four times that which it did receive in 1920 in order to earn a fair return of 8% on the fair value of the property.

FAIR RATES.

Subdivision of Gross Revenue Between Service Revenue and Miscellaneous Receipts.

The first step in the allocation of rates is to deduct the miscellaneous receipts from gross revenue in order to ascertain the total service revenue which must be raised by fire service and general water service charges. This operation is indicated in Table No. 61, between pages 26 and 27. From this table it is seen that of the total required gross revenue of $35,731, $37 will be received from miscellaneous receipts, leaving $35,694 which must be derived from service revenue.

The miscellaneous receipts are based upon the average amounts for 1916 to 1920, inclusive, taken from Table No. 60, between pages 23 and 24. The total is made up as follows:

Tapping fees,	$5
Non-Operating Earnings,	32
Total,	$37

The service revenue received by the Raritan Township Water Company in 1920 under the present rates amounts to $4,473 (see Table No. 60, between pages 23 and 24). One modification had to be made in this revenue in order to obtain an amount corresponding to normal operations, namely, that required by the temporary abnormal use of water by the local consumers of the Watchung Water Company (page 34). If the use of water by these local customers had been normal in 1920, they would have used 53.73 million gallons less than they did and The Elizabethtown Water Company would have received that much more from the Watchung Water Company and would have paid the Raritan Township Water Company $1.50 per million gallons for the transportation thereof through its portion of the Bound Brook main. Therefore, the actual operating revenue for 1920 should be increased by 53.73 million gallons at $1.50 per million gallons, or $81.

TABLE No. 61.

ALLOCATION OF REQUIRED GROSS REVENUE OF RARITAN TOWNSHIP WATER COMPANY.

Fair Net Return, 8% on $250,000, ...	$20,000
Operating Expenses, ...	218
Taxes, ...	12,338
Annual Depreciation Reserve, ...	3,175
Total Gross Revenue Required, ...	$35,731

ALLOCATION OF GROSS INCOME.

Item.	*Per Cent.*	*Amount.*
(1)	(2)	(3)
A. Subdivision of Gross Revenue Between		
Service Revenue, ...	99.90	$35,694
Miscellaneous Receipts, ...	.10	37
Total Gross Revenue, ...	100.00	$35,731

B. Subdivision of Total Service Revenue:		
Service Revenue from Local Consumers, ...	2.48	$885
Service Revenue from The Elizabethtown Water Company, ...	97.52	34,874
Total Service Revenue, ..	100.00	$35,694
C. Subdivision of Service Revenue from Local Consumers:		
Fire Service Revenue, ...	0.00	$000
General Water Service Revenue, ...	100.00	885
Total Service Revenue from Local Consumers,	100.00	$885

We have then as a total water revenue for 1920 under normal conditions of operation:

Actual receipts during 1920, ...	$4,473
Additional for temporary abnormal use of water by local customers of the Watchung Water Company, ...	81
	$4,554

Hence, the water service revenue required by the Raritan Township Water Company in order to enable it to pay operating expenses and taxes, set aside a proper depreciation reserve and receive a fair return on the fair value of its property, namely, $35,694 (see page 26), should exceed the above service revenue of $4,554 by $31,140.

Subdivision of Service Revenue Between the Local Customers and the Elizabethtown Water Company.

The costs of the Raritan Township Water Company may be divided into two divisions, one representing the cost of supplying The Elizabethtown Water Company

and the other the cost of supplying the local customers. The cost of supplying the local customers involves the payments for the water purchased for them and the fair return, taxes, depreciation and operating expenses in connection with the distribution system and the general and miscellaneous functions of the Company. The cost of supplying The Elizabethtown Water Company consists of the fair return, taxes, depreciation and maintenance expenses in connection with the transmission main. It should, therefore, be a annual fixed charge for the transportation of water.

The cost of supplying local customers, based upon an analysis of these costs, is as follows:

Fair return on fair value of distribution system..	$360
Taxes on fair value of distribution system	222
Depreciation on distribution system	57
Operating Expenses	218
Total Cost	$857
Deduct miscellaneous revenue, average from 1916 to 1920 (See page 26)	37
Net Service Revenue to be paid by local customers	$820

The costs in connection with the transportation of water for the use of The Elizabethtown Water Company, based on the fair value of that portion of the transmission maiin owned by the Raritan Township Water Company is as follows:

Fair Return	$19,640
Taxes	12,116
Depreciation	3,118
Maintenance (none in 1920)	0
Total	$34,874

Subdivision of Service Revenue From Local Customers Between Fire Service Revenue and General Water Service Revenue.

At the present time the Raritan Township Water Company does not furnish any fire service. Therefore, the entire cost of supplying the local needs must be met by the revenues derived from the local domestic rates. These rates, therefore, should produce a revenu of $820 (see above). The present local water service rates of the Raritan Township Water Company produced a revenue of $290 in 1920 (See Table No. 60, between pages 23 and 24). A fair schedule of rates should, therefore, produce a revenue which will exceed that obtained by means of the present rates by $530, or 183%.

Fair Rates.

In order to pay a fair return on the fair value of the property used and useful for water works purposes and at the same time to pay all operating expenses and taxes and to put aside a proper reserve for depreciation, I find that the Raritan Township Water Company should modify its rates as follows:

1. The present rates for domestic service, both metered and unmetered, and miscellaneous, should be increased by 180%.
2. The Elizabethtown Water Company should pay the Raritan Township Water Company a fixed annual charge of $35,000 for the transportation of water through the portion of the Bound Brook main owned by the Raritan Township Water Company.

These rates will produce a revenue as follows:

General Water Service Revenue,
Local Customers:

Unmetered private service in 1920.	$290	
Additional revenue due to 180% increase in rates	522	
		$812

The Elizabethtown Water Company:	
Transporting water	35,000
Total Service Revenue	$35,812
Miscellaneous Receipts	37
Gross Income	$35,849

10 WATCHUNG WATER COMPANY

COST OF WATER SERVICE

Fair Net Return.

Based upon the fair value of the property, $270,000, and a fair rate of return of 8%, the fair net return which the Company should receive amounts to $21,600.

TABLE No. 62

WATCHUNG WATER COMPANY

COMPARATIVE STATEMENT OF OPERATING REVENUE, OPERATING EXPENSES, DEPRECIATION AND NET RETURN FOR THE YEARS ENDED DECEMBER 31, 1914, 1915, 1916, 1917, 1918, 1919 and 1920

Item (1)	1914 (2)	1915 (3)	1916 (4)	1917 (5)	1918 (6)	1919 (7)	1920 (8)
Operating Revenue:							
Metered Service	$2,108.76	$2,109.11	$5,824.71	$4,339.56	$3,156.48	$4,955.41	$12,460.33
Unmetered Service	10,876.03	11,000.97	11,820.18	13,445.59	15,118.22	17,409.46	20,826.96
Hydrant Rentals and Municipal Service	1,367.30	1,521.03	1,622.43	1,770.80	1,665.11	1,702.97	1,693.29
Water to The Elizabethtown Water Company	.....	.....	221.42	8,109.51	9,031.51	7,559.90	1,906.45
Miscellaneous Water Service	.....	127.30	523.28	215.84	81.50	415.94	338.15
Tapping and Sales of Material	664.60	708.60	1,280.94	1,069.00	1,084.43	1,781.59	4,304.56
Miscellaneous Operating Revenue	.....	.....	62.60	46.50	28.50	34.00	18.75
Total Operating Revenue	$15,016.69	$15,467.01	$21,355.56	$28,996.80	$30,165.75	$33,859.27	$41,548.49
Operating Expenses:							
Water Supply Expenses (Table No. 63)	$3,045.11	$3,098.91	$4,450.14	$11,169.45	$11,495.10	$14,932.65	$21,093.89
Maintenance expenses (Table No. 63)	637.89	353.34	199.98	1,042.41	1,711.00	1,568.92	929.56
General and Miscellaneous Expenses (Table No. 63)	2,202.45	2,455.51	2,394.87	2,633.77	3,008.38	3,321.20	4,127.89
Taxes	907.48	1,312.03	1,132.23	1,608.68	1,954.96	2,184.60	2,580.44
Depreciation	3,349.11	3,419.84	3,774.38	3,823.02	3,840.09	4,157.91	4,321.52
Total Operating Expenses	$10,142.04	$10,639.63	$11,951.60	$20,277.33	$22,009.44	$26,165.28	$33,053.30
Net Operating Earnings	$4,874.65	$4,827.38	$9,403.96	$8,719.47	$8,156.31	$7,693.99	$8,495.19
Non-Operating Revenue:							
Rent	$92.25	$45.00	.....	.....	.....	.....	.....
Interest	1.72	19.43	$13.31	$12.52	$11.47	$4.06	$11.09
Miscellaneous	400.00	414.75	.....	.....	.39	21.33	.....
	$493.97	$479.18	$13.31	$12.52	$11.86	$25.39	$11.09
Less: Non-Operating Deductions	.....	36.76	5.00	5.00	9.00	.....	.....
Net Non-Operating Earnings	$493.97	$442.42	$8.31	$7.52	$2.86	$25.39	$11.09
Net Earnings or Return for Year	$5,368.62	$5,269.80	$9,412.27	$8,726.99	$8,159.17	$7,719.38	$8,560.28
Deductions from Net Earnings:							
Interest on Funded Debt	$4,000 00	$4,000.00	$4,000.00	$4,000.00	$4,000.00	$4,000.00	$4,000.00
Other Interest	94.84	25.40	91.27	248.40	240.57	350.74	435.58
Total Deductions	$4,094.84	$4,025.40	$4,091.27	$4,248.40	$4,240.57	$4,350.74	$4,435.58
Net Profit for Year	$1,273.78	$1,244.40	$5,321.00	$4,478.59	$3,918.60	$3,368.64	$4,070.70

TABLE No. 63

Watchung Water Company

COMPARATIVE STATEMENT OF WATER SUPPLY EXPENSES, MAINTENANCE EXPENSES, GENERAL AND MISCELLANEOUS EXPENSES FOR THE YEARS ENDED DECEMBER 31, 1914, 1915, 1916, 1917, 1918, 1919 and 1920

Item (1)	1914 (2)	1915 (3)	1916 (4)	1917 (5)	1918 (6)	1919 (7)	1920 (8)
Water Supply Expenses:							
Collecting System	.....	.....	.....	.....	.....	$1,394.76	.....
Purification System	.....	.....	.....	$37.43	.....	.....	.....
Pumping System	$2,516.78	$2,649.31	$3,603.96	10,424.24	$10,657.06	11,840.17	$16,976.33
Distribution System	528.33	449.60	846.18	707.78	838.04	1,697.72	4,117.56
Total Water Supply Expenses	$3,045.11	$3,098.91	$4,450.14	$11,169.45	$11,495.10	$14,932.65	$21,093.89
Maintenance Expenses:							
Collecting System	.....	$8.00	.....	.....	.....	.....	.....
Pumping System	$573.61	257.34	$62.16	$507.14	$1,103.85	$1,263.44	$464.90
Distribution System	64.28	57.60	133.32	491.49	589.49	277.94	464.66
General Repairs	.....	30.40	4.50	43.78	17.66	27.54	.....
Total Maintenance Expenses	$637.89	$353.34	$199.98	$1,042.41	$1,711.00	$1,568.92	$929.56
General and Miscellaneous:							
Administration	$2,197.45	$2,106.53	$2,032.87	$2,164.85	$2,586.59	$2,322.92	$2,676.51
Accounting and Commercial	.....	.....	.....	.....	.....	397.53	647.00
Injuries and Damages	.....	.....	.....	.....	2.75	54.75	233.00
Insurance	.....	.....	24.50	28.52	38.76	67.77	95.65
Store and Stable	.....	306.45	275.00	313.65	300.00	368.70	389.23
Miscellaneous General	5.00	42.53	62.50	126.75	80.28	109.53	86 50
Total General and Miscellaneous	$2,202.45	$2,455.51	$2,394.87	$2,633.77	$3,008.38	$3,321.20	$4,127.89

Operating Expenses.

Table No. 62, between pages 30 and 31, gives a statement of the revenues, operating expenses, depreciation and net return of the Watchung Water Company for each of the seven years ending December 31, 1914 to 1920 inclusive. The details of the operating expenses are given in Table No. 63, between pages 30 and 31. It is seen from Table No. 62 that the total expenses of operations for the year 1920 were $33,053.30, of which taxes amounted to $2,580.44 and depreciation to $4,321.52, leaving $26,151.34 as the expenses of operating excluding taxes and depreciation. No modification of this was found necessary in connection with the determination of the cost of the water service and the operating expenses have, therefore, been taken as $26,151, exclusive of taxes and depreciation.

Taxes.

The taxes of the Watchung Water Company, namely, Municipal, County and State Property taxes, State Franchise tax, Federal Income and Excess Profits and State Capital Stock tax, were computed by the same methods outlined for The Elizabethtown Water Company (see pages 5 and 6).

The weighted average tax rate for 1920 and the taxable property of the Watchung Water Company is about $3.50 per hundred dollars of value.

The gross depreciated value of the taxable property of the Watchung Water Company as of Janpary 1, 1921, is $240,979. Therefore, the Municipal, County and State Property taxes, based on the valuation in the inventory, would be $240,979 × .0350 = $8,434.

The proportion of the water revenue which the Company derives from property in public highways, streets, etc., is about 99%. Therefore, the State Franchise tax will be based upon 99% of the water revenue which fair rates will yield. The tax rate in the case of this Com-

pany is 5%. The total service revenue of the Company with a fair schedule of rates would be $65,697 (see page 33). Therefore, the amount of the State Franchise tax would be

$$\$65,697 \times .99 \times .05 = \$3,252.$$

The Federal Income and Excess Profits tax which the Watchung Water Company would have paid in 1920 if fair rates had been in effect amounts to $4,600. This is its proportion of the total Federal Income and Excess Profits tax as determined by the joint return made by The Elizabethtown Water Company and the three affiliated water companies (page 6).

The Capital Stock tax paid by the Watchung Water Company to the State for 1920 was $93, and I have included this amount with my estimate of the taxes under the proposed rates.

The following summary gives the total amount of taxes which the Watchung Water Company would pay with a fair schedule of rates in effect:

Municipal, County and State Property tax, ..	$8,434
State Franchise tax, ...	3,252
Federal Income tax, ...	4,600
State Capital Stock tax, ...	93
Total, ...	$16,379

Annual Reserve for Depreciation.

Figuring depreciation reserve on the basis of 1.5% per annum on the cost of reproduction of the depreciable property, the annual reserve for depreciation for the year 1920, based upon the values in the inventory, would be $3,520, as shown in Table No. 29D, Column (10), Line 0, following page 38 of VOLUME III.

Gross Income Required.

On the basis above outlined, the gross cost of supplying water amounts to:

Net Return, 8% on $270,000	$21,600
Operating Expenses,	26,151
Taxes,	16,379
Reserve for Depreciation,	3,520
Total,	$67,650

Therefore, the gross income required by the Watchung Water Company to pay a fair return on the fair value of the property and to pay all operating expenses and taxes and set aside a proper reserve for depreciation should be $67,650. Compared with this gross income, the revenue which the Company received in 1920 was $41,560 as follows (see Table No. 62, between pages 30 and 31):

Operating Revenue,	$41,549
Net Non-operating Earnings,	11
Total,	$41,560

The Company should have obtained, therefore, over one and one-half times that which it did receive as in 1920 in order to earn a fair return of 8% on the fair value of the property.

Fair Rates.

Subdivision of Gross Revenue Between Service Revenue and Miscellaneous Receipts.

The first step in the allocation of rates is to take the miscellaneous receipts from the gross revenue in order to ascertain the gross service revenue which must be raised by fire service and general water service charges. This operation is indicated in Table No. 64, between pages 33 and 34. From this table it is seen that of the total required gross revenue of $67,650, $1,953 will be received from miscellantous receipts, leaving $65,697 which must be derived from service revenue.

The miscellaneous receipts are based upon the average amounts for 1916 to 1920 inclusive, taken from Table No. 62, between pages 30 and 31. They are as follows:

Tapping and sales of material,	$1,904
Miscellaneous operating revenue,	38
Net Non-operating Earnings,	11
Total,	$1,953

The operating revenue received by the Watchung Water Company in 1920, under the present rates, amounted to $37,225, made up as follows (see Table No. 62, between pages 30 and 31):

Metered service,	$12,460
Unmetered service,	20,827
Hydrant rentals and municipal service,	1,693
Water to The Elizabethtown Water Company,	1,907
Miscellaneous water service,	338
Total.	$37,225

This revenue does not correspond to normal conditions of operation because of the fact that two of the local customers of the Watchung Water Company used abnormal amounts of water during 1920, a use which did not exist before 1920 and which will not continue in the future. The amounts involved in this temporary abnormal use of water are as follows:

TABLE NO. 64.

ALLOCATION OF REQUIRED GROSS REVENUE OF WATCHUNG WATER COMPANY.

Fair Net Return, 8% on $270,000,	$21,600
Operating Expenses,	26,151
Taxes,	16,379
Annual Depreciation Reserve,	3,520
Total Gross Revenue Required,	$67,650

Allocation of Gross Revenue.

Item. (1)	*Per Cent.* (2)	*Amount.* (3)
A. Subdivision of Gross Revenue between		
Service Revenue, ...	97.11	$65,697
Miscellaneous Receipts, ..	2.89	1,953
Total Gross Revenue, ..	100.00	$67,650
B. Subdivision of Total Service Revenue:		
Service Revenue from Local Consumers, ...	75.51	$49,608
Service Revenue from The Elizabethtown Water Company, ...	24.49	16,089
Total Service Revenue,	100.00	$65,697
C. Subdivision of Service Revenue from Local Consumers:		
Fire Service Revenue, ...	49.49	$24,549
General Water Service Revenue, ...	50.51	25,059
Total Service Revenue from Local Consumers,	100.00	$49,608

Railroad Round House:
Used in 1920, ...1,928,600 cubic feet.
Ordinary Use. ... 0 " "

Abnormal Use, ..1,928,600 cubic feet = 14.46 M. G.

"Factory":
Used in 1920, ...5,636,000 cubic feet.
Ordinary Use, ... 400,000 " "

Abnormal Use, ..5,236,000 cubic feet = 39.27 M. G.

Total, ... 53.73 M. G.

The supply of the Watchung Water Company is used first to meet the needs of the local customers and the excess is delivered to the Bound Brook main for the use of The Elizabethtown Water Company. Therefore, the temporary abnormal use of water by the local customers in 1920 decreased correspondingly the amount of water available for the use of The Elizabethtown Water Company. To bring the revenues and consumption to a normal basis in 1920, the amount of abnormal use was deducted from the metered service and added to the use by The Elizabethtown Water Company.

As the water was sold to local consumers at the rate of $150.00 per million gallons and to The Elizabethtown Water Company at the rate of $40 per million gallons, the following correction had to be made in the actual receipts in order to bring same to a normal basis:

Deduct from Metered Service 53.73 M. G. at $150 .....=	$8,059
Add to water sold to The Elizabethtown Water Company, 53.73 million gallons at $40 =	2,149
Making a net reduction of.....	$5,910

from the actual receipts of $37225 (see page 33), leaving a balance of $31,315 as the 1920 service revenue under normal conditions.

Therefore, the water service revenue required by the Watchung Water Company in order to enable it to pay operating expenses and taxes, set aside a proper depreciation reserve and receive a fair return on the fair value of its property, namely, $65,697 (see page 33), should exceed the above service revenue of $31,315 by $34,382.

Subdivision of Service Revenue Between Local Customers and The Elizabethtown Water Company.

The fair value of the Watchung Water Company was carefully allocated between the local customers and The Elizabethtown Water Company (see Table No. 65, be-

tween pages 35 and 36). The value of the collecting system and pumping system was apportioned on the basis of the water used by the local customers and by The Elizabethtown Water Company. The Elizabethtown Water Company began to obtain water from the Watchung Water Company in 1916, but it was not until 1917 that they obtained any considerable proportion of the water supplied by the Watchung Water Company. The proportions obtained since 1916 are as follows, that for 1920 being corrected for the temporary abnormal use by the local customers in that year:

1917,	76.3%
1918,	76.0%
1919,	66.9%
1920,	49.0%

Taking into consideration the fact that The Elizabethtown Water Company receives only the excess of water not used by the local customers, and that there is normally an increase on the consumption of the local customers which tends to reduce the portion of water that The Elizabethtown Water Company receives, I have adopted 60% as the fair proportion to use in allocating the fair value of the collecting and pumping systems to The Elizabethtown Water Company.

The distribution system of the Watchung Water Company is used almost wholly for supplying the local customers, a single line from the pumping station to the Bound Brook main serving to carry the water used by The Elizabethtown Water Company. The cost of this main is about 7.7% of that of all the mains, but as it is partly used to carry the water for the local customers, I have apportioned only 5% to The Elizabethtown Water Company. All other elements of the physical plant of the Watchung Water Company have been apportioned entirely to the local customers.

TABLE No. 65.

ALLOCATION OF FAIR VALUE OF THE WATCHUNG WATER COMPANY BETWEEN LOCAL CONSUMERS AND THE ELIZABETHTOWN WATER COMPANY.

Schedule No. (1)	System. (2)	Gross Present Value. (3)	FAIR VALUE. Local Consumer. Per Cent. (4)	Local Consumer. Amount. (5)	Elizabethtown. Per Cent. (6)	Elizabethtown. Amount. (7)
	ELEMENTS EXISTING JANUARY 1, 1919.					
	Collecting System:					
	Land	$867.	40	$457.	60	$520.
119	Springs and Wells	5,735.	40	2,294.	60	3,441.
111	Collecting Conduits and Reservoirs	2,354.	40	942.	60	1,412.
	Pumping System:					
	Land	289.	40	116.	60	173.
121	Pumping Stations	7,319	40	2,928.	60	4,391.
122	Steam Power Pumping Equipment	14,806.	40	5,922.	60	8,884.
123	Hydraulic Power Pumping Equipment	9,208.	40	3,683.	60	5,525.
126	Miscellaneous Pumping Equipment	370.	40	148.	60	222.
	Distribution System:					
	Land	15,482.	100	15,482.	0	0.
	Easements	384.	100	384.	0	0.
128	Storage Reservoirs, Tanks and Standpipes	10,644.	100	10,644.	0	0.
129	Distribution Mains and Accessories	146,609.	95	139,279.	5	7,330.
	Service System:					
130	Service Pipes and Stops	1,983.	100	1,983.	0	0.
131	Meters, Meter Boxes and Vaults	1,960.	100	1,960.	0	0.
132	Fire Hydrants and Fire Cisterns	5,140.	100	5,140.	0	0.

TABLE No. 65—*Continued.*

ALLOCATION OF FAIR VALUE OF THE WATCHUNG WATER COMPANY BETWEEN LOCAL CONSUMERS AND THE ELIZABETHTOWN WATER COMPANY.

Schedule No. (1)	System. (2)		Gross Present Value. (3)	FAIR VALUE. Local Consumer. Per Cent. (4)	Local Consumer. Amount. (5)	Elizabethtown. Per Cent. (6)	Elizabethtown. Amount. (7)
	ELEMENTS EXISTING JANUARY 1, 1919.						
	General System:						
135	General Equipment		$237.	100	$237.	0	0.
136	Other Tangible Water Capital		3,561.	100	3,561.	0	0.
	Total	(a)	$226,948.	86	$198,050.	14	$31,898.
	Organization	(b)	3,800.	86	3,268.	14	532.
	Total	(c)	$230,748.	86	$198,318.	14	$32,430.
	PROPERTY ABANDONED.						
	During 1920 (Table No. 28A)	(d)	$758.	70	$531.	30	$227.
	Additions to Plant:						
	During 1919 (Table No. 29C)	(e)	$12,147.	100	$12,147.	0	$0.
	During 1920 (Table No. 29C)	(f)	9,499.	100	9,499.	0	0.
	Total	(g)	$21,646.	100	$21,646.	0	$0.
	Annual Depreciation:						
	During 1919 (Table No. 29D)	(h)	$3,337.	86	$2,870.	14	$467.
	During 1920 (Table No. 29D)	(i)	3,520.	86	3,027.	14	493.
	Total	(j)	$6,857.	86	$5,897.	14	$960.
	Elements Existing January 1, 1921:						
	Tangible Plant (c)—(d)+(g)—(j)=	(k)	$224,779.	87	$213,536.	13	$31,243.
	Going Cost	(l)	26,792.	87	23,309.	13	3,483.
	Total (k) + (l)	(m)	$271,571.	87	$236,845.	13	$34,726.

The result of the above allocation is to charge 87% of the fair value of the plant to the local customers and 13% to The Elizabethtown Water Company. On the same basis 59% of the operating expenses are chargeable to the local customers and 41% to The Elizabethtown Water Company. (See Table No. 66, between pages 36 and 37.)

TABLE No. 66.

ALLOCATION OF OPERATING EXPENSES OF THE WATCHUNG WATER COMPANY FOR THE YEAR ENDING DECEMBER 31, 1920, BETWEEN LOCAL CONSUMERS AND THE ELIZABETHTOWN WATER COMPANY.

Item. (1)	Amount (Table No.) (2)	Local Consumer % (3)	Local Consumer Amt. (4)	Elizabethtown % (5)	Elizabethtown Amt. (6)
Water Supply Expenses:					
Collecting System	.....	..	.....	..	.....
Pumping System	$16,976	40	$6,790	60	$10,186
Distribution System	4,118	95	3,912	5	206
Total Water Supply Expenses	$21,094	51	$10,702	49	$10,392
Maintenance Expenses:					
Collecting System	.....	..	.....	..	.....
Pumping System	$465	40	$186	60	$279
Distribution System	464	95	441	5	23
General Repairs	.....	100	.....	0	.....
Total Maintenance Expenses	$929	67	$627	33	$302
General and Miscellaneous:					
Administration	$2,677	..	.....	..	.....
Accounting and Commercial	647	..	.....	..	.....
Injuries and Damages	233	..	.....	..	.....
Insurance	96	..	.....	..	.....
Store and Stable	389	..	.....	..	.....
Miscellaneous General	86	..	.....	..	.....
Total General and Miscellaneous,	$4,128	100	$4,128	..	.....
Total Operating Expenses	$26,151	59	$15,457	41	$10,694

TABLE No. 67.

ALLOCATION OF GROSS INCOME REQUIRED BY THE WATCHUNG WATER COMPANY, BETWEEN LOCAL CONSUMERS AND THE ELIZABETHTOWN WATER COMPANY.

Item.	Amt.	Local Consumer %	Local Consumer Amt.	Elizabethtown %	Elizabethtown Amt.
(1)	(2)	(3)	(4)	(5)	(6)
Fair Value	$270,000	87	$234,900	13	$35,100
Fair Return of 8%	21,600	87	18,792	13	2,808
Operating Expenses	26,151	59	15,457	41	10,694
Taxes	16,379	87	14,250	13	2,129
Reserve for Depreciation	3,520	87	3,062	13	458
Gross Income Required	$67,650	76	$51,561	24	$16,089

The allocation of the gross income required by the Water Company is set forward in Table No. 67, between pages 36 and 37. The fair return, taxes and reserve for depreciation were apportioned in accordance with the percentages derived for the fair value of the plant. The last line of the table shows that $51,561, or 76% of the gross income should be paid by the local customers and $16,089, or 24%, should be paid by The Elizabethtown Water Company. Deducting the $1,953 for miscellaneous receipts (see page 33) from the cost of supplying the local customers, leaves a balance of $49,608 as a total service revenue to be derived by means of local rates.

The cost of supplying The Elizabethtown Water Company, as shown on Table No. 67, is $16,089, and the quantity of water delivered in 1920 was as follows:

Actual amount	47.46	million gallons
Additional water to correct for temporary abnormal use by local customers of Watchung Water Company	53.73	" "
Total	101.19	" "

The cost of supplying The Elizabethtown Water Company is, therefore, $16,089 ÷ 101.19, or $159 per million gallons.

Subdivision of Service Revenue From Local Customers Between Fire Service Revenue and General Water Service Revenue.

Investigation of the cost of a water works system required for fire protection, made by Messrs. Metcalf, Kuichling and Hawley (American Water Works Association, Proceedings 1911, p. 86), and verified by our own analysis of several plants, disclosed that for a small company like the Watchung Water Company, about 65% of the cost of the plant and 7% of the operating expenses allocated to the local customers are chargeable to fire service.

Applying these per cents to the gross income required of the local customers (See Table No. 67, Column (4), between pages 36 and 37) gives a fire protection cost as follows:

Fair Return	$18,792 × .65 =	$12,215
Operating Expenses	15,457 × .07 =	1,082
Taxes	14,250 × .65 =	9,262
Reserve for Depreciation	3,062 × .65 =	1,990
Total	$51,561 × .48 =	$24,549

The hydrant rentals received in 1920 were only $1,597 (= 1,693, including other municipal service, see Table No. 62, between pages 30 and 31). The cost of fire service is, therefore, 15.4 times the revenue yielded by the present average hydrant charge of $13.30 per hydrant per year.

There are 624,680 inch-feet of distribution mains and 121 hydrants of the Watchung Water Company. At $10.00 per hydrant (see page 11) the hydrant revenue would be $1,210. The remaining fire service costs, amounting to $23,339 (= $24,549 — 1,210), if paid on the inch-foot basis, would require an inch-foot charge of $0.037.

Deducting the first service cost ($24,549) from the total service revenue ($49,608, see page 36) to be paid by the local customers of the Watchung Water Company, leaves $25,059 as general water service to be obtained from the water rates paid by the local customers.

The general water service revenue paid by the local customers in 1920 under the present rates, corrected for the temporary abnormal use of water by the local customers, was as follows: (See Table No. 62, between pages 30 and 31.)

Metered service, $12,460—8,059 ..... =	$4,401
Unmetered service	20,827
Miscellaneous water service	338
Total	$25,566

The general water service revenue required from the local customers ($25,059) is, therefore, substantially the same as that which the present rates bring.

Fair Rates.

In order to pay a fair return on the fair value of the property used and useful for water works purposes and at the same time to pay all operating expenses and taxes, and to put aside the proper reserve for depreciation, I find that the Watchung Water Company should modify its rates as follows:

1. The present rates for domestic service, both metered, unmetered, and miscellaneous, should remain as they are.
2. The fire service revenue should be obtained from annual fire service charges of $.037 per inch-foot of mains 6″ and larger and of $10.00 per hydrant for Company owned hydrants.
3. The Elizabethtown Water Company should pay an annual rate of $160 per million gallons for all water which it receives from the Watchung Water Company.

These rates will produce a revenue as follows:

General Water Service Revenue:
Local Customers:
Revenue from present rates in 1920 (see p. 38) $25,566

The Elizabethtown Water Company:		
Collecting, pumping and delivering water to Bound Brook main, 101.19 million gallons at $160 per million gallons ..	16,190	
Total General Water Service		$41,756
Fire Service Revenue:		
Inch-Foot Charge:		
624,680 inch-feet at $.037 per inch-foot	$23,113	
Hydrant Charge:		
121 hydrants at $10.00 each ...	1,210	
		24,323
Total Service Revenue		$66,079
Miscellaneous Receipts		1,953
Gross Revenue		$68,032

TABLE NO.

RECAPITULATION OF FAIR VALUE AND GROSS EARNINGS BASED ON PRESENT RATES AND ON FAIR RATES.

THE ELIZABETHTOWN WATER COMPANY, PISCATAWAY WATER COMPANY, RARITAN TOWNSHIP WATER COMPANY AND WATCHUNG WATER COMPANY.

Item. (1)	Present Rates. (2)	Fair Rates. (3)	Ratio = (3) ÷ (2) (4)
Summary of Value as of January 1, 1921:			
The Elizabethtown Water Company	$4,080,000	$4,080,000	..
Piscataway Water Company	750,000	750,000	..
Raritan Township Water Company	250,000	250,000	..
Watchung Water Company	270,000	270,000	..
Total All Companies	$5,350,000	$5,350,000	..
Net Return for 1920:			
The Elizabethtown Water Company	$135,104	$326,400	2.42
Piscataway Water Company	8,142	60,000	7.37
Raritan Township Water Company	2,719	20,000	7.36
Watchung Water Company	8,507	21,600	2.54
Total All Companies	$154,472	$428,000	2.77

Operating Expenses, Excluding Taxes for 1920:			
The Elizabethtown Water Company	$350,212	$361,573	1.03
Piscataway Water Company	23,385	23,385	1.00
Raritan Township Water Company	56	56	1.00
Watchung Water Company	26,151	26,151	1.00
Total All Companies	$399,804	$411,165	1.03
Taxes for 1920:			
The Elizabethtown Water Company	$68,845	$214,562	3.12
Piscataway Water Company	4,718	41,059	8.70
Raritan Township Water Company	2,032	12,338	6.07
Watchung Water Company	2,580	16,379	6.35
Total All Companies	$78,175	$284,338	3.74
Reserve for Depreciation for 1920:			
The Elizabethtown Water Company	$36,977	$53,070	1.44
Piscataway Water Company	8,297	11,236	1.35
Raritan Township Water Company	3,314	3,175	0.96
Watchung Water Company	4,322	3,520	0.81
Total All Companies	$52,910	$71,001	1.34
Total Expenses and Net Return for 1920:			
The Elizabethtown Water Company	$591,138	$955,605	1.62
Piscataway Water Company	44,542	135,680	3.04
Raritan Township Water Company	8,121	35,569	4.38
Watchung Water Company	41,560	67,650	1.63
Total All Companies	$685,361	$1,194,504	1.74
Gross Income for 1920 From Sources Other Than Affiliated Water Companies:			
The Elizabethtown Water Company ..(a)	$642,689	$1,137,987	1.77
Piscataway Water Company .....(b)	2,725	4,326	1.59
Raritan Township Water Company ....(c)	325	731	2.32
Watchung Water Company .....(d)	39,653	51,460	1.30
Total All Companies	$685,392	$1,194,504	1.74
Gross Income of Individual Companies for 1920 After Payments to Affiliated Companies Are Made:			
The Elizabethtown Water Company ..(a)	$591,138	$955,605	1.62
Piscataway Water Company .....(b)	44,542	135,680	3.04
Raritan Township Water Company ....(c)	8,121	35,569	4.38
Watchung Water Company .....(d)	41,560	67,650	1.63
Total All Companies	$685,361	$1,194,504	1.74

(a) The difference between these two items is made up as follows:

	Col. (2)	Col. (3)
Water purchased from Piscataway Water Co.	$28,782	$33,692
Water transported by Piscataway Water Co.	166	97,500
Water transported by Raritan Township Water Co.	4,183	35,000
Water purchased from Watchung Water Co.	1,938	16,190
Interest on advances to Piscataway Water Co.	12,707	.....
Interest on advances to Raritan Township Water Co.	3,775	.....
Total	$51,551	$182,382

(b) The difference between these two items is made up as follows:

Water sold to The Elizabethtown Water Co.	$28,782	$33,692
Water transported for The Elizabethtown Water Co.	166	97,500
Water purchased from Piscataway Water Co.	162	162
Interest on advances from The Elizabethtown Water Company	12,707	.....
Total	$41,817	$131,354

(c) The difference between these two items is made up as follows:

Water transported for The Elizabethtown Water Co.	$4,183	$35,000
Water purchased from Piscataway Water Co.	—162	—162
Interest on advances from The Elizabethtown Water Company	3,775	.....
Total	$7,796	$34,838

(d) The difference between these two items is made up as follows:

Water sold to The Elizabethtown Water Co.	$1,907	$16,190

Exhibit P-6—List of Public Utility Securities Showing Yield.

Exhibit P-7—Table Showing Water Pumped and Purchased for the Year 1920.

TABLE No. 3 (REVISED)

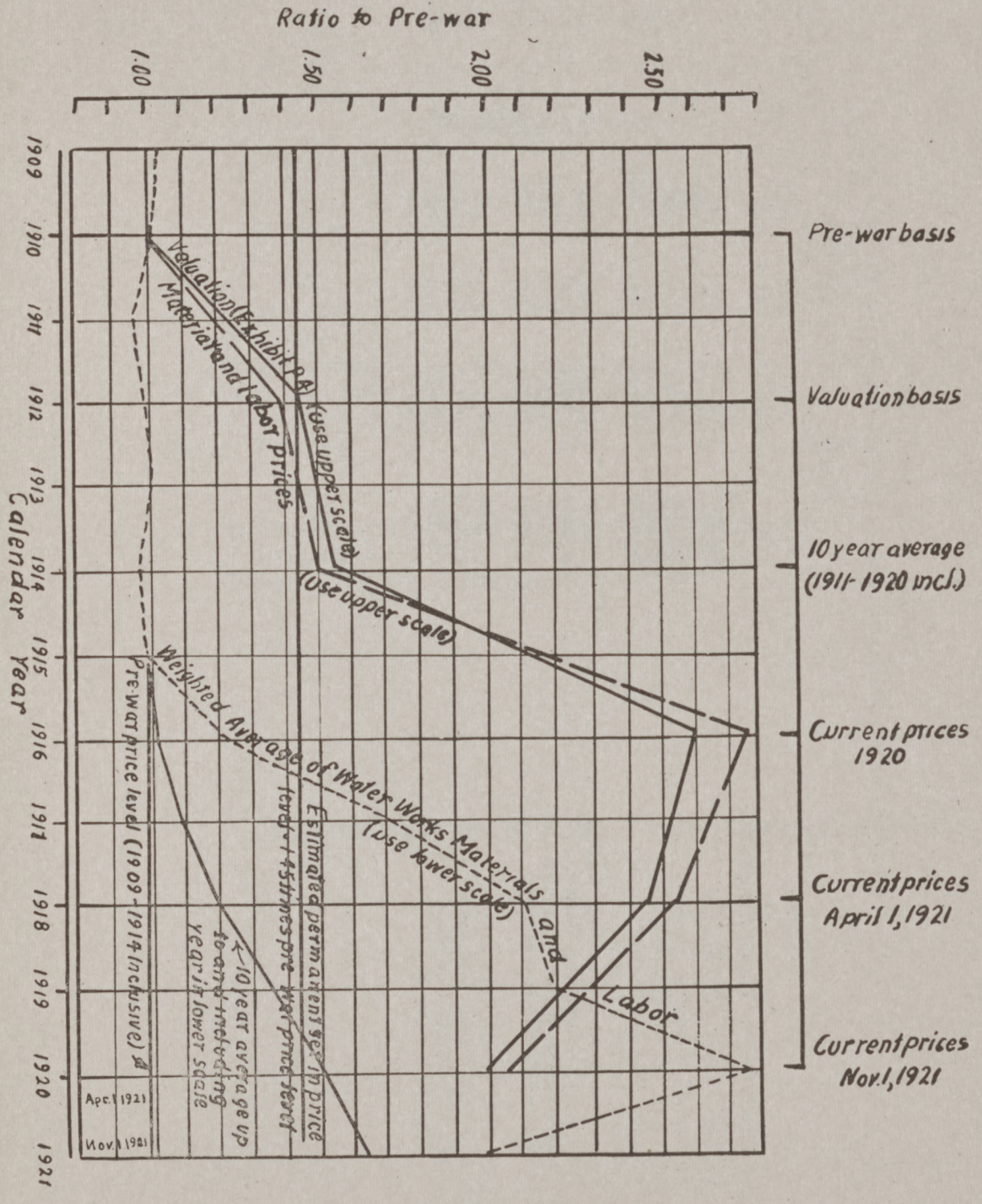
QUANTITY OF WATER DERIVED FROM DIFFERENT SOURCES IN 1918 AND 1920.

Source	Supply Gallons Daily		Per Cent of Total		Price Paid Per M. G.		
	1918	1920	1918	1920	1918	1920	1921
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
The Elizabethtown Water Company:							
Elizabeth Pumping Station,	3,997,868	3,727,786	19.68	19.61	....	....	....
Hammocks Pumping Station,	2,787,875	2,814,111	13.72	14.81	....	....	....
Springfield Pumping Station,	3,944,099	3,298,513	19.42	17.36	....	....	....
Piscataway Water Company,	1,983,638	2,245,225	9.77	11.81	$35.	$35.	$35.
Watchung Water Company,	656,518	129,672	3.23	0.68	40.	40.	40.
Middlesex Water Company:							
Robinsons Branch Pumping Station,	2,519,326	2,794,148	12.40	14.70	50.	45.	60.
Park Avenue Pumping Station,	2,493,992	1,046,904	12.28	5.51	32.50	32.50	47.50
Plainfield Union Water Company,	47,527	132,541	0.23	0.70	40.	45.	45.
Commonwealth Water Company,	37,381	50,772	0.18	0.27	Schedule Rates	156.90	156.90
Short Hills Water Company,	916,068	878,730	4.51	4.62	50.	50.	70.
Rahway City Water Company,	228,766	678,819	1.13	3.57	50.	50.	50.
Newark City Water Company,	700,479	1,208,497	3.45	6.36	90. & 60.	80. & 60.	80. & 60.
Total or Average,	20,313,537	19,005,718	100.00	100.00			

Exhibit P-8.—Answer to Question 9 of Questionnaire.

Exhibit P-9.—Four Sheets Giving Overhead.

Exhibit P-10.—Diagram Showing Increase in Water-works Materials



New Jersey Court of Errors and Appeals

CITY OF ELIZABETH, *Prosecutor-Appellant,* *vs.* BOARD OF PUBLIC UTILITY COMMISSIONERS and ELIZABETHTOWN WATER COMPANY, *et als.*, *Defendants-Respondents.*	*On Certiorari.* *On Appeal from New Jersey Supreme Court.*

BRIEF OF CITY OF ELIZABETH, PROSECUTOR-APPELLANT.

Statement of Facts.

This appeal brings before the Court a judgment of the Supreme Court (Case, p. vii) on *certiorari* affirming, on a *per Curiam* opinion (Case, p. iii), an order made by the Board of Public Utility Commissioners on the application of Elizabethtown Water Company, permitting that company to put into effect increased rates for water supplied by it to public and private consumers (Case, p. 51).

The circumstances under which the application of the company to the Board was made, and the grounds on which the order of the Board was based, are set forth in the Board's "Report" (Case, p. 19).

The order was attacked in the court below generally on the ground that it was without the jurisdiction of the Board and that there was no evidence before the Board reasonably supporting the order (P. L. 1918, ch. 130).

The specific reasons relied upon in support of this attack are set out in the "Reasons" filed under the writ of certiorari (Case, p. 4).

On the basis of these reasons the prosecutor contended in the court below that a rehearing before the Board should be ordered upon such terms and conditions as the court below should deem reasonable (P. L. 1918, ch. 130).

The prosecutor now submits that the court below erred in rendering its judgment affirming the order.

The basis of this contention is set out in the notice and grounds of appeal (Case, p. 1).

LAW.

Point I.

The court below erred in failing to find that the Board of Public Utility Commissioners took into consideration, in making its order, evidence which was not part of the record before it; not called to the attention of the parties to such record, to refute which, by cross examination or counter-testimony, no opportunity was afforded, and that such order was, consequently, not made "after hearing, upon notice" as required by the statute.

The court below, in its opinion, dismissed this point by saying:

"The first point argued by the prosecutor is that the Board took into consideration, in its decision, evidence which was not part of the record.

It appears from the report that the engineers of the Board checked the inventory and the appraisal was subjected to a careful analysis

by a study of the unit prices and a comparison of the prices used with similar figures used by the Board in other appraisal work. The prosecutor contends that the work of the engineers of the Board and the Board's comparison was not embodied in the record and hence a result was arrived at and decision made outside of the record, which constitutes error. We think the Board was within its powers in using the knowledge it had obtained in other proceedings of unit prices and in using its engineers to check the inventory. It would be almost impossible for any Board not to use the knowledge which it obtained in other proceedings in weighing the evidence in the case which it has under consideration, and to mould the form of its schedule along the lines of those schedules which have been tested in the courts and approved. The burden is on the prosecutor to show in what respect the order impairs its substantial right. The Public Utility Act provides that 'No order shall be set aside in whole or in part for any irregularity or informality in the proceedings of said Board, unless such irregularity or informality tends to defeat or impair the substantial right or interest of the prosecutor in certiorari.' We feel that the prosecutor in this respect has not sustained the burden the statute imposes.''

It is respectfully submitted that in this conclusion the Court misapprehended the ground of the prosecutor's contention.

It was not, nor is it now, contended that the members of the Board in reaching a determination on the record made before them, may not bring to the consideration of the facts to which the testimony before them is directed, the general knowledge borne of their experience.

Such a contention would deserve condemnation as frivolous.

It was, and is, however, contended that facts not contained in the record, may not be added thereto by "checking" by engineers; by selections from undisclosed data, which may or may not be "similar" to the facts to which the testimony was directed; by studies by engineers of these selections; and the record thus augmented, made the basis of reaching a determination in the light of the fund of general knowledge of the members of the Board gained through their experience.

Where such a course is pursued the fundamental right of the parties to the record to a determination "after hearing," and consequently upon the testimony adduced at the hearing, is violated.

Surely this right is "substantial," and the course of procedure which infringes it is not tainted merely with "irregularity" or "informality."

The Board of Public Utility Commissioners is a statutory body vested with no powers other than those which the statute confers.

It is vested with power to fix just and reasonable rates when, after hearing upon notice, it determines existing rates to be unjust or unreasonable.

In exercising such power the Board is confined to considering and acting upon the evidence presented in the course of such hearing.

That the Board as a statutory body possesses no powers other than those conferred upon it by the statute, is a proposition so elementary that extended citation of authority is not justified.

In *N. Y. Central R. R. Co.* v. *Public Service Commission,* (Ind.) 134 N. E. 282, the Court, referring to the Public Service Commission of that State, said: "It is created and its duties defined by statute. Its powers and duties are conferred and limited by the statute, and where power is given to it to do a certain thing in a certain manner, the manner prescribed is the measure of the power given."

In *State* v. *Chicago & N. W. R. R. Co.,* (N. D.) 179 Wis. 378, the Court said: "It is elementary that the Board of Railroad Commissioners possesses only the authority conferred upon it by the Constitution and Statutes of the State" and "its action, therefore, concerning any subject-matter within its jurisdiction to be valid, must be in substantial conformity with the statutes governing its procedure, and must be consonant with due process of law."

The Public Utility Act (P. L. 1911, ch. 195), in its sixteenth (16) section, provides that the Board shall have power *"after hearing upon notice,"* by order in writing to fix just and reasonable rates whenever it shall determine any existing rate to be unjust, unreasonable or insufficient.

The power so lodged in the Board is, it should be noticed, to be exercised only *"after hearing upon notice."*

It is submitted that it follows that the determinations made by the Board in the exercise of such power as to existing and future rates must be based solely on the record made before it in the hearing.

The legislative intent to this effect is clearly manifested by the provision made by the statute for judicial review of the determinations made by the Board.

New Jersey State Library

The Public Utility Act, in its thirty-eighth section (P. L. 1918, ch. 130), provides that: "The Supreme Court is hereby given jurisdiction to review said order of the Board and to set aside such order in whole or in part when it clearly appears that there was no evidence before the Board to support reasonably the same or that the same was without the jurisdicition of the Board."

The section requires that the "*evidence presented*" to the Board with the findings and order issued thereon shall be certified to the Supreme Court as the Board's return.

The judicial review so provided for is manifestly a review of the order in the light of "*the evidence presented to the Board*" and of the Board's "findings" on the evidence presented to it.

This provision as to judicial review establishes the legislative intent to confine the Board to consideration of, and to basing its findings and order on, the evidence presented to it at the hearing.

If the Board's findings and order may be based upon other than the evidence presented to it in the hearing—upon matters outside the record made before it—the requirement of the statute that the *evidence presented,* and the findings and order shall be certified to the Court, and that the order shall be set aside when it clearly appears that there was no evidence before the Board reasonably supporting the order made, is futile.

Section seventeen (h) of the statute should be noticed in this connection. It provides that the burden of proof to show that an increase in rates by a public utility is just and reasonable

shall be upon the public utility making the same.

How on judicial review of an order of the Board allowing an increase in rates can a determination be reached whether the public utility before the Board met the burden of proof which is so imposed upon it, if the determination of the Board is not required to be confined to the evidence presented before it in the hearing, and may be rested upon, and aided by, matter not contained in the record and not specifically disclosed by the return?

Any construction of the statute which permits an order of the Board to rest upon, and be aided by, matter not disclosed at the hearing and therefore accepted and acted upon by the Board without opportunity to the parties to subject it to cross examination, on the one hand, or to meet it by testimony, on the other hand, renders futile the statutory requirement of hearing.

In *Interstate Commerce Commission* v. *Louisville & N. R. Co.,* 227 U. S. 88, Mr. Justice Lamar, delivering the opinion of the Court, said:

"The Commission is an administrative body, and, even where it acts in a quasi judicial capacity, is not limited by the strict rules, as to the admissibility of evidence, which prevail in suits between private parties, *Interstate Commerce Commission* v. *Baird,* 194 U. S. 25. But the more liberal the practice in admitting testimony, the more imperative the obligation to preserve the essential rules of evidence by which rights are asserted or defended. *In such cases the Commissioners cannot act upon their own information, as could jurors in primitive days. All parties must be fully apprised of the evidence submitted or to be considered, must be*

given opportunity to cross examine witnesses, to inspect documents, and to offer evidence in explanation or rebuttal. In no other way can a party maintain its rights or make its defense. In no other way can it test the sufficiency of the facts to support the findings; for otherwise, even though it appeared that the order was without evidence, the manifest deficiency could always be explained on the theory that the Commission had before it extraneous, unknown, but presumptively sufficient information to support the finding."

In *Trustees of Saratoga Springs* v. *Saratoga Gas, Etc., Co.*, 191 N. Y. 123, 83 N. E. 693, the Court held that the mere provision in a statute empowering a commission to fix the rates charged by gas companies, that the agents of the Commission shall inspect the plant and books of the company does not authorize it to fix rates upon the reports of the agents *where the statute also provides for a public hearing after notice.*

In *Appalachian Power Company* v. *Commonwealth* (Va.), 110 S. E. 360, the Court *held* that a public utility company is denied a hearing under the constitutional provision relating to due process of law when a Commission bases its decision upon an engineer's report submitted after a hearing without affording the utility an opportunity of considering such report or the subject of a rate fixed therein differing from the rate considered at the hearing, or presenting its views on the subject by exception to such report or otherwise.

See also: *Atlanta* v. *Georgia Railway & Power Co.* (Ga.), 100 S. E. 442.

In *Kwock Jan Fat* v. *White,* 253 U. S. 454, a proceeding under the Chinese Exclusion Act, the Court *held* that in cases under the act the essentials of the evidence before the examining inspector must be preserved in the record of the proceeding no less for the information of the Commissioner of Immigration and the Secretary of Labor in exercising their authority than for the information of the courts in determining whether that authority has been abused.

Mr. Justice Clark, reading the opinion of the court, said (464): "It is the province of the courts, in the proceedings for review, within the limits amply defined in the cases cited, to prevent abuse of this extraordinary power, *and this is possible only* when a full record is preserved of the essentials on which the executive officers proceed to judgment."

The Board did not in its "findings" and order confine itself to considering, and basing the same upon, the evidence presented to it in the hearing.

The "Report" of the Board on its face discloses that the Board in its findings and order went outside the record made before it.

The "report" recites: "The inventory of the property *was checked by the engineers of the Board,* and the appraisal itself was subjected to a careful analysis by a study of the unit prices and a *comparison of the prices used with similar figures used by the Board in other appraisal work"* (Case, p. 24).

The inventory referred to was prepared on behalf of, and produced by, the company.

It was the subject of controversy before the Board.

Conflicting testimony was, for illustration, directed to the question whether various items included therein were or were not in fact "used and useful in the public service," and should be included therein or excluded therefrom.

These and other like disputed questions arising on the inventory the Board did not determine, according to its report, on the basis of the record made before it.

It determined them upon a "check" made by its engineers, who were not produced as witnesses and who did not testify.

Neither the method adopted, nor the scope or result of such "check" anywhere appear.

No opportunity was afforded the parties to the proceedings to test by cross examination the conclusions reached, the facts upon which the same were based, or the reasons underlying them.

So, too, as to "unit prices" applied to the inventory.

The determination of proper unit prices is a matter of first importance in a valuation. It involves the finding of the key fact in the valuation structure.

Unsettled conditions (of which the Court may take judicial cognizance), extending now over a long period of years, having resulted in rapid and radical fluctuations in prices of commodities and labor, make the exact date to which the unit prices are to be related a matter of prime concern.

Methods of building up unit prices vary widely in the practice of experts, particularly in the making of allowances for so-called "overheads."

It is in the field of unit prices that the conflict *as to fact* is most tense.

If there is one factor in valuation that, more than another, should not be the subject of determination by comparison of matter in the record with matter outside the record, which matter outside the record has not been disclosed in the proceeding, it is this factor of "unit prices."

Comparison enters into and influences the determination to be made. The basic facts to be compared should, therefore, be submitted to the parties, in order that an opportunity to question their comparability and to establish their non-comparable nature may be had.

Unit prices were in dispute before the Board and were the subject of conflicting testimony.

Yet the Board did not determine the questions raised by such conflicting testimony on the basis of the record made before it but *"on a comparison"* of the figures testified to *"with similar figures used by the Board in other appraisal work"* (Report, Case, p. 24).

These "figures" so used were not produced by the Board in the hearing as has been the practice of the Board in other proceedings as the records of this Court will disclose.

What these "figures" were, by whom prepared, for what purpose, how they were built up, to what period of time they were related, and whether they were in fact comparable, does not appear.

Yet, as the Board's report discloses they placed a determining part in the Board's conclusions, which under the statute are to be reached *"after hearing."*

It is submitted that these considerations establish that the Board acted upon evidence of which the prosecutor was not cognizant; which

it had no opportunity to subject to the test of cross examination; and to which it was afforded no opportunity to reply; that by this means it was denied, a determination upon "hearing;" that the right so denied to it was a "substantial" right, and that in holding to the contrary the court below erred.

If the procedure adopted by the Board here objected to receives judicial sanction the door will be opened wide to most mischievous consequences.

Parties to proceedings before administrative boards exercising quasi-judicial functions will continuously be confronted by the possibility that at the close of the proceeding the determination may be based not upon the evidence presented but upon other evidence destructive of their rights which they could not foresee nor in any manner guard against.

Such procedure would not be sanctioned in a suit or action pending before a judicial tribunal.

In such suit or action not only is the production of the proof in open court required, but the time and order of the introduction of the testimony at the trial is regulated to the end that there may be an orderly administration of justice.

Livingston v. *Com.*, 7 Grat. (Va.) 658;
Phila. & T. R. Co. v. *Stimpson,* 14 Pet. (U. S.) 448, 462.

With respect to this subject can there be one rule applicable to the action of the courts and another applicable to the action of administrative bodies clothed with quasi-judicial powers?

Point II.

The court below erred in that it failed to exercise independent judgment, both as to the law and the facts, and construed, and gave effect to the statute as preventing the exercise by it of independent judgment as to the facts.

Disposing of the prosecutor's attacks upon the rate base adopted by the Board, the court below in its opinion simply says: "There was evidence which justified the results arrived at by the Board and they will not be disturbed in view of the fact that there is evidence which will support the finding of the Board."

The court below in adopting this course construed and gave effect to Chapter 130 of the Laws of 1918 as withholding from it power to exercise its independent judgment as to the facts in a review of an order of the Board determining existing rates to be unjust and unreasonable and prescribing just and reasonable rates for the future.

Chapter 130 of the Laws of 1918 amends section 38 of the Public Utility Act of 1911 (P. L. 1911, Chapter 195).

The scope and effect of this section in limiting the powers of our Supreme Court has, from the time of its enactment, been a matter of concern to the Court.

See opinion of Swayze, *J.*, in *Public Service Gas Co.* v. *Board,* 84 N. J. L. 463.

It is submitted that if this section of the statute requires the construction which the court below placed upon it, that its enactment was without the power of the legislature.

That an administrative rate-regulating order cannot constitutionally be made final and that

opportunity must be allowed to question the order before a judicial tribunal was settled in *Chicago Ry. Co.* v. *Minnesota,* 134 U. S. 418.

There remained, however, after this adjudication, the question as to the extent of judicial review which must be afforded.

This question was set at rest in *Ohio Valley Water Co.* v. *Ben Avon Borough,* 253 U. S. 287, where Mr. Justice Reynolds, speaking for the court said: "The State must provide a fair opportunity for submitting that issue to a judicial tribunal for determination upon its own independent judgment as to both law and facts."

It is submitted that this decision reinforces the argument advanced herein under Point I.

How, if the conclusion of the Board is based upon matter off the record can the reviewing judicial tribunal exercise independent judgment as to the facts?

In such situation one set of facts moves the action of the Board, but that set of facts is not, and cannot be, before the Court.

Point III.

The court below erred in failing to find that the Board cannot, as a matter of law, disregard the question of the value of the service rendered, and the fact that property employed is incapable of rendering and does not render adequate and proper service, in determining whether existing rates are unjust or unreasonable and prescribing just and reasonable rates.

In this connection the court below said: "The prosecutor next contends that the company is not entitled to an advance in rates until it is

rendering proper and adequate service to the public; that by reason of the company's failure to comply with the orders of the Board for the improvements of its service, it was not in a position to ask for relief. The prosecutor desires to have applied the maxim of equity that one who comes into a court of equity must come in with clean hands. In other words, that no relief is to be offered a utility if that utility is not rendering adequate and proper service, even though the failure to render such service is due to a deficient return upon the actual capital invested and an inability to attract capital to the enterprise by reason of such return, rather than to an arbitrary refusal to improve the service when the company has at its command sufficient funds for that purpose. In the present case if this doctrine was applicable, because of the company's failure to obey the order of June 8, 1920, it could not be applied, in view of the fact that this Court held that the company was under no obligation to make the improvements ordered in view of the financial inability of the company to make them. If other defects of service be relied on by the prosecutor we are of the opinion that such defects of service arose from insufficient rates and should not prevent the increase of rates granted by the Board. The policy of the law is and should be to aid utilities to properly function and to render adequate service to the public by permitting rates to be charged for the service rendered which will yield an adequate return upon the capital invested, maintain the property, and attract capital. The policy should never be one of destruction. *O'Brien* v. *Public Utility Board*, 92 N. J. L. 44. A starved utility is in no better position to render proper service than a

starved horse or motor car without fuel. We think the evidence amply justified the increase in rates granted."

It is submitted that in this conclusion the court below misapprehended the argument advanced by the prosecutor and misconceived the facts and law.

The Board is clothed with power to fix a just and reasonable rate *only after* it determines an existing rate to be unjust or unreasonable.

This basic determination requires consideration of the value of the service rendered.

An existing rate is not unjust or unreasonable where it fairly measures the value of the existing service, which service is inadequate and improper.

A "just and reasonable rate" can never exceed the value of the service.

The property employed by the company was inadequate and improper. The service furnished by means of such property was likewise inadequate and improper. The Board so found.

The Board held the existing rates to be unjust and unreasonable and prescribed others as just and reasonable, wholly disregarding the facts so found.

In this course, it is submitted, the Board erred in law and the court below should have so held.

The legal principle that a "just and reasonable rate" cannot exceed the value of the service is well settled.

The principle has been recognized in cases involving a determination of the confiscatory or non-confiscatory character of a rate under the Fourteenth Amendment to the Federal Constitution.

In *Smyth* v. *Ames,* 169 U. S. 466, Mr. Justice Harlan, delivering the court's opinion, said: "What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. *On the other hand, what the public is entitled to demand is that no more be exacted of it for the use of a public highway than the services rendered by it are reasonably worth.*"

It has also been recognized in cases involving a determination whether a rate fixed by the Board under the Public Utility Act squared with the requirement of justice and reasonableness prescribed by that act.

In *Public Service Gas Company* v. *Board of Public Utility Commissioners,* 84 N. J. L. 463, Swayze, *J.,* said: "The next question is whether the rate fixed was just and reasonable. On the one hand, *a just and reasonable rate can never exceed, perhaps can rarely equal, the value of the service to the consumer.* On the other hand, it can never be made by compulsion of public authority so low as to amount to confiscation. A just and reasonable rate must ordinarily fall somewhere between these two extremes, so as to allow both sides to profit by the conduct of the business and the improvement of methods, and increase of efficiency."

"Justice to the consumer ordinarily would require a rate somewhat less than the full value of the service to him; and justice to the company would ordinarily require a rate above the point at which it would become confiscatory.

"To induce the investment and continuance of capital there must be some hope of gain commensurate with that realizable in other business: the mere assurance that the investment will not be confiscated would not suffice."

That the property, and service furnished, were in fact, and that the Board found them to be inadequate and improper is indisputable.

Referring to this subject the Board in its "Report" said (Case, p. 21): "Elizabeth, as originally developed, did not have very many high buildings, but with the growth of the city, taller buildings have been erected, many of which are tenement houses, and the pressures in large areas of the city have become increasingly insufficient. Some three years ago the situation was extremely serious. Due, however, to the general industrial depression, the demand for water has somewhat decreased and waste of water has been lessened by metering many flat rate customers. *The service is not yet what it eventually must be made in order that the residents will have proper use of their facilities.*"

A "Report" (P. L. 1911, p. 374, Sec. 7) of the Board rendered as the result of hearing in a proceeding entitled "In *re* Investigation of service afforded by Middlesex Water Co., Elizabethtown Water Co., and Plainfield Union Water Co., dated June 2, 1920, P. U. Report VIII, p. 120, contains the following findings on the subject whether adequate and proper service was furnished:

"The conditions surrounding the supply of water in Elizabeth were first brought to the Board's attention *December 3,* 1916, by Charles H. Mayer, *et al.*, residing in the vicinity of Third street and Elizabeth avenue. Their complaints were to the general effect that water was frequently unavailable on the second floors of houses in that vicinity. * * * The pressure available at that point now appears to be slightly higher than in 1916, *but is insufficient to assure a continuous service on the second floor of residences*

in that neighborhood. As there are many flats located on the second floors which include complete kitchen and bath equipment the necessity of a continuous supply of water to these floors is obvious. Complaints from this same neighborhood have been received at various times since 1916, indicating that the condition has not materially changed since it was first called to the attention of the Board.

"Complaints were also received from Mr. Frank J. Pfaff of inadequate service on the extreme southern side of Elizabeth on Franz Joseph avenue near Brunswick avenue. These locations are from ten to fifteen feet higher than the larger part of that section of Elizabeth lying east of the Pennsylvania Railroad, but the situation on Franz Joseph avenue is exaggerated because of the fact that the Standard Oil Company and other industrial concerns in the Bayway section take a large part of their supply from the ten-inch main on Brunswick avenue and through the twelve-inch main located on Bayway.

"Complaints have also been received from resident houses located on Trumbull street, just west of Second street. In the latter location there are two three-story tenement houses which are the only ones affected by the inadequate pressure. *In these houses no water has been available on the third floors for five years, nor on the second floors for upwards of two years and for some time past water has been available on the first floor only at night and on Sunday in the daytime.* This is due to the fact that the Central Railroad and the Singer Manufacturing Company obtain their principal supply from the ten-inch main on Trumbull street. To obtain water and lift it to the various tanks from which it is served,

these concerns use pumps, drawing the water from the mains and causing a condition under which water frequently never rises as high as the first floor of the two tenements on Trumbull street referred to.

"A rough canvass has been made of the eastern part of Elizabeth where much of the complaint originated. This shows that in addition to those named above *there are probably twenty or thirty tenements located in the neighborhood of Third and Pine streets which do not have water on the third floors.* In extremely cold weather, when water has been allowed to run to prevent freezing, and damage to fixtures, pressures have been so low in many second-floor kitchens as to require the drawing of fires in the kitchen ranges."

On the basis of these findings the Board then concluded that the system was inadequate in the following respects:

"In Elizabeth the following are needed: first, additional water; second, *a general increase in pressure throughout the entire territory;* third, additional transmission capacity available for supply of water to the eastern end of Trumbull street and vicinity; fourth, additional capacity eastward and southeastward from the point where the line from Robinson's Branch enters the City of Elizabeth to Elizabeth avenue and beyond."

The Board specifically determined that the service furnished by the Elizabethtown Water Company was inadequate and insufficient.

The force of these findings, conclusions and determinations is not broken by the fact that the order made on the basis thereof was set aside on certiorari since the judgment of the court

went upon the ground of the impossibility of the financing by the company of the work required by the order.

That the conditions so found in June, 1920, had not been corrected appears from the quotation made above from the Board's report upon which the order now considered is based, and from the statement in said report to the effect that one of the difficulties incident to "any very great increase in the pressure at the present time" is the existence of a considerable amount of old cement main and that these cement mains must be replaced in the very near future with suitable mains *in order that the pressures in general may be increased to an extent which will assure adequate service"* (Report, Case, p. 21).

It is also indicated by the testimony of the witness, Nicholas Hill, produced on behalf of the company, who, on cross examination testified: "I think the pipe reinforcement is necessary in the distribution system" and again said: "I think the capital should be spent for the reinforcement of the distribution system so as to keep the pressures up in Elizabeth" and further stated that broadly speaking it was true that the company had not enough equipment to adequately supply the population that they have undertaken to supply (Case, pp. 405, 406, 407).

It is further indicated by the results of pressure tests made by August Gerstung (Case, p. 649).

That the company does not furnish adequate and proper service thus clearly appeared.

That the company's property and equipment is not *now* in condition to enable it to furnish

adequate and proper service also clearly appeared.

Although the Board found that the company was not furnishing adequate and proper service and that its property and equipment was not *now* in condition to enable it to furnish such service it did not take these factors into account, either in determining the "fair value" of the property devoted to the public use, or the "just and reasonable rate."

On the contrary the Board, on the one hand, declined to deduct from the value of the property the *actual* existing and accrued depreciation in the cement mains, and limited the deduction for depreciation "to the amount estimated by the company" in lieu it says of "allowance of any definite sum in the present capital base to cover the added costs for cast iron mains," which cast iron mains it must be noticed do not *now* exist and will come into existence as a part of the property of the company only at that indefinite period of time when "the company is able to finance the expenditures" necessary to effect the substitution of cast iron mains for the cement mains (Case, p. 25).

And on the other hand, the Board did not in its allowance in operating expenses for "annual depreciation" take into account the lessened need for an allowance for annual depreciation due to the difference between the cement mains and the assumed cast iron mains.

And finally the Board allowed rates which in its judgment would return 7.25 per cent. on the value of the property as determined by it, saying that this return "*should enable these companies to furnish safe, proper and adequate service to their customers and attract capital to*

finance the extensions needed in order that the companies may keep pace with the growing needs of the communities served by them'' (Case, p. 32).

The net result is that by the order of the Board the present consumers are required to pay, for a service found to be inadequate and improper and furnished through property and equipment incapable of furnishing an adequate and proper service, rates the exaction of which can at best be justified on the basis of an adequate and proper service; and this without assurance when, if ever, in the future such service may be furnished, for the Board makes no specific requirement with respect thereto.

That the Board gave no weight in its determination of ''fair value'' and ''fair rate of return'' to the inadequate and improper nature of the service *now* rendered and the inadequacy of the *existing* property to render adequate and proper service is, it is submitted, beyond dispute.

That considerations of ''justice and reasonableness'' require that these matters should be taken into account, is established by the cases in which the question has been considered.

In *Notawa County Gas Co.* v. *State* (Okla.), 177 Pac. 618, the Court *held* that where a gas company is required by order of the Corporation Commission to furnish an adequate supply of gas for domestic consumption, and is allowed to charge the public a maximum rate, which is based upon the adequacy of the service rendered as well as upon the quantity of gas furnished, and it is subsequently shown that this degree of efficiency is not sustained by the company during certain winter months, the Corporation Commission has power to make an order requiring the

company to discount its bills rendered for such months at a certain per cent. for the purpose of apportioning the maximum rate allowed according to the efficiency of the service rendered, as well as to the quantity of gas furnished, where it is practicable to do so, and where it appears from the findings of fact of the Commission, which are conceded to be correct, that the discount ordered bears a fair relation to the falling off in service, such order will not be disturbed on appeal.

Kane, *J.*, delivering the court's opinion said: "As we understand the order of the Commission, it proceeds upon the theory that, inasmuch as the maximum compensation of the gas company is allowed upon the basis of adequate service, where the service is not kept up to this standard the rate charged the public should be graded in proportion to the falling off in efficiency. On the other hand, it seems to be the contention of the gas company that it is entitled to pay at the maximum rate for the quantity of gas furnished, regardless of the efficiency of the service rendered the public. We think the rule announced by the Corporation Commission is entirely just and reasonable, provided a practical basis for its application can be established, and we see no insuperable barrier in the way of doing this."

In *Bluefield Waterworks & Imp. Co.* v. *Public Service Commission* (W. Va.), 110 S. E. 205.

Miller, *J.*, delivering the court's opinion, said: "That a public utility has no right to a rate sufficient to cover extensions or additions to its plant, we decided in the Huntington case cited. And we held in the same case that such utility could not properly be allowed a rate which

would give an income on investments for extensions and improvements not already made. In this case, there was much evidence going to show that the applicant had not been performing faithfully the obligations of its franchise; that it had been furnishing a very inadequate supply of water, of which much complaint had been made and lodged against it, to the extent that the Commission felt called upon to order the applicant to submit plans for extensions and improvements, to enable it to discharge its duty to the public under its franchise. These facts the Commission had the right to take into consideration in prescribing rates."

We are not without authority for the proposition in our own courts.

In *New Jersey Traction Co.* v. *Board of Public Utility Commissioners,* 113 Atl. 692, the Board denied an increase in fare from seven cents to ten cents, finding that the company's roadbed and equipment was unsafe, insufficient and inadequate; that rates cannot exceed the value of the service, and that the proposed rate of ten cents would be unjust and unreasonable for the service rendered.

In sustaining the action of the Board the Court said: "The fundamental question upon which the case turns is whether the Board may, in determining what is a just and reasonable rate of fare, take into consideration the safety, sufficiency and adequacy of service. The contention on behalf of the prosecutor is that the Board cannot. The plain reading of the statute and a consideration of universally recognized business principles adopted by the commercial world and which are basic of our State policy lead me to the view that, in determining whether a

rate of fare proposed by a public utility is unjust and unreasonable, the Board may properly take into consideration the safety, sufficiency and adequacy of the services rendered." * * *

The court below attempts to meet the argument here advanced by pointing out that the court had previously held that the company was under no obligation to make the improvements required by the Board under an order of June 8, 1920, "in view of the financial inability of the company to make them," and that "if other defects of service be relied on by the prosecutor we are of opinion that such defects of service arose from insufficient rates and should not prevent the increase of rates granted by the Board."

It is difficult to see, from an examination of the record upon what basis the Court rested the last of these conclusions.

The very nature of the defects in property and service found by the Board carries a demonstration of their gradual development, and continuous aggravation over a long period of years.

Prior to 1911 the company possessed power uncontrolled by statute, to prescribe its rates. Since 1911, it is true, that its initiation of increased rates has been subject to the approval of the Board of Public Utility Commissioners, but does it appear that prior to the proceedings before the Board now considered, that the company sought and failed to obtain approval of increased rates?

The report of the Board indicates that the rates of the company "have seen no particular changes during the last fifty years."

What basis then is there for the conclusion of the court below that rates *in the past* were insufficient?

Surely such was not the judgment of the company in whose hands the fixing of the rates rested and which failed to act in effecting their increase.

What basis, then, is there for the opinion that "such defects of service arose from insufficient rates"?

Assuming, however, for the sake of argument that the conclusion of the court below was justified by the facts, still in view of the fact that the situation *now existing* developed through the failure of the company to act, what element of justice or reasonableness is there in a requirement *for the future* that consumers shall pay rates that are just and reasonable only as compensation for a proper and adequate service, upon a finding that the service actually rendered is improper and inadequate; without assurance as to when, if ever, such improper and inadequate service will be transformed into a service that is proper and adequate?

Point IV.

The estimated cost to reproduce the property at a given time is but one of the factors to be taken into consideration in determining the "fair value" of the property. The Board erred in law in giving this factor determining and controlling weight and in failing to take into consideration the evidence before it of the "book" or "original" cost. The court below in affirming the order into the making of which such error in law entered likewise erred in law.

The point now made was raised in the court below. It is unnoticed in the *per curiam* opinion rendered.

The basis of all calculations as to the justice and reasonableness of public utility rates is the fair value of the property employed in rendering the public service.

In determining such fair value the original cost of construction, the expenditures made in permanent improvements, the present as compared with the original cost of construction, are all matters for consideration.

No one of them is of determining and controlling weight.

Each of them is to be given such weight in the given case as considerations of justice and reasonableness to the company, on the one hand, and to the public, on the other hand, require.

Smyth v. *Ames,* 169 U. S. 466.

The ascertainment of such fair value is not controlled by artificial rules. It is not a matter of formulas but there must be a *reasonable judgment,* having its basis in a proper consideration of *all relevant facts.*

Simpson v. *Shepard,* 230 U. S. 352.

The Board had before it evidence of the "book" or "original cost" of the property (Report, Case, pp. 272, 273).

It wholly failed to take such cost into account, or to give it any weight, in determining fair value.

It is true that the Board says (Report, Case, p. 24, 25) "with respect to structures and equipment greater weight should be given to value on a pre-war basis, modified to the extent of allowing a reasonable appreciation due to present day conditions, subject also to adjustment for depreciation."

An examination of the report shows that the Board did not merely give to "value on a pre-war basis" "greater weight" but that it gave it sole and controlling weight, wholly ignoring in its consideration of fair value the evidence of "book" or "original cost" which was before it.

Making its calculations the Board at the outset says (Report, Case, p. 30): "The pre-war basis of value new of the property used and useful as developed by the companies' appraisers and checked and examined by the Board's engineer, will be taken as a starting point for the value new of the property in existence at December 31, 1918."

In adopting this course the Board, it is submitted, erred in law.

See:

Southwestern Bell Telephone Co. v. *Public Service Com. of Missouri,* 66 L. ed. U. S. 537.

That the error materially affected the conclusion reached is made apparent by a consideration of the substantial difference between the "book" or "original" cost of various items and the value attributed to these items on the basis of the so-called pre-war costs.

The "book" or "original cost" was uniformly less than the so-called pre-war costs (Case, p. 785, *et seq.*).

A typical illustration appears in the testimony with reference to the property of the Piscataway company, a company organized about 1910 (Case, pp. 407, 409), the cost of which as carried on the books is $414,231 which is 73.6 per cent. of the estimated cost of reproduction on the

basis of pre-war prices, plus the actual cost of additions since 1914.

If it is suggested that the "book costs" did not include "overhead charges," attention is called to what appears (Case, p. 409) in the records of the company on this subject. The overhead charges actually incurred were fully included in the book costs.

In this connection it should also be noticed that the Board wholly ignored the testimony before it of the cost of a modern plant and its operation (Case, p. 807).

It is submitted, therefore, that the Board did not base its judgment on a proper consideration of *all relevant facts before it.*

And attention is again directed to the insistment under Point I that it based its judgment *upon facts not before it* in its determination of the "fair value" of the property here in question.

Point V.

The Board erred in both fact and law in determining "fair value" and the court below erred in affirming the order of the Board into the making of which such error entered.

(It is submitted, in passing, that because the court below acted on the assumption that it could not exercise an independent judgment in its review of the facts, the prosecutor may in this court indicate the errors in fact as well as in law which it contended below had been committed by the Board, notwithstanding the judgment rendered in affirmance of the Board's order).

(a)

The Board in its report stated that "included in the appraisal as it stands is the land which has been purchased for the new Raritan River development, extending from the junction of the Millstone and Raritan Rivers to the east side of Bound Brook. * * * No portion of this land is yet occupied by either buildings or pipe lines and when this property goes into service certain other plants of the company may become obsolete and may eventually be dismantled or disposed of. The amount included in the reappraisal for the real estate referred to is $107,335. This will be deducted" (Report, Case, p. 28).

In this the Board adopted a correct course.

The title to these properties is held by the Somerville Water Company (Case, pp. 27, 28).

What interest the Elizabethtown Water Company has therein did not specifically appear, though it did appear that purchase moneys therefor were advanced by that company (Case, p. 762).

Nor did the purpose of the acquisition appear except in a general way to provide a *joint* supply for the Plainfield Union Co., the Middlesex Co. and the Elizabethtown Co. (Case, p. 762).

The Board, however, erred in permitting the *full value* of a thirty-six inch cast iron pipe constructed by the Piscataway and Raritan Township Companies to remain in the appraisal of the property of the Elizabethtown Water Co.

This pipe was constructed by these companies, sometime prior to the acquisition of the properties at the junction of the Raritan and Millstone Rivers admittedly for the purpose of conveying water ultimately from the new source of

supply for the benefit of the Plainfield Union, Middlesex and Elizabethtown companies.

The thirty-six inch pipe has never been, and is not now, used to its full capacity. In fact it is employed to but a small fraction of its capacity (Case, pp. 773, 774).

Separated from the proposed supply to utilize which it was constructed, the thirty-six inch pipe partakes of the nature of *overbuilt works,* and the appraisal should have attributed to it only a value equal to its utility in conveying the comparatively small amount of water carried through it.

Long Branch v. *Tintern Manor Water Co.,* 70 N. J. 91.

(b)

The Board included in the value found by it mere rights of way valued as though the company was vested with the fee.

It is submitted that the course taken by the Board with respect to this matter as indicated by the following extract from its report (Case, p. 26) was not justified.

The Board says:

"*Land used as right of way for the pipe lines was appraised by the witnesses for the companies on the assumption that the fee was owned by the company, although in connection with a large number of parcels it appears that the company merely enjoys a right to lay mains* while the owner of the fee still retains the right to use the surface, in some cases for farming purposes, in others for laying railway tracks, oil pipe lines, etc. The value of the right of way under such conditions, is a matter difficult of determination. The actual cost paid for these rights by the

companies with proper allowance for appreciation in value would be a better basis for determining the value at this time if all of this information was available in detail. Certain tracts of land purchased by the Piscataway Water Company cost that company, as shown by a letter to the Board dated February 3rd, 1911, approximately $12,000; *these particular tracts* were valued in the aggregate at $17,494, by the companies' appraisers. With regard to the Raritan Township Water Company, certain items of right of way cost the company $10,664, this information also being found in a letter to the Board dated February 3rd, 1911. *As near as it is possible to identify these tracts,* it appears that the appraised value of them is $21,493. In view of these figures, it appears to us that substantial justice will be done if the values of the right of way are taken, for the purpose of this inquiry, at the same figures as fixed by the appraiser in his testimony. As a matter of fact, a considerable variation in our conclusions as to the value of the real estate would have a negligible effect on the ultimate rate schedules."

(c)

To obtain "fair value" accrued or existing depreciation must be deducted.

In this connection the Board adopted the company's estimate and said (Report, Case, p. 25):

"The companies' deduction for accrued depreciation takes into account the present condition of certain cement mains in the City of Elizabeth. A very considerable reduction is made because of their character and condition. They must, however, be replaced in the very

near future with suitable cast iron mains in order that the pressures in general may be increased to an extent which will assure adequate service. Depreciation on the combined plants was estimated by Hill as of January 1st, 1919, at $439,913. To this must be added the increase in depreciation reserve up to July 1, 1921, making a total for depreciation on Hill's basis of value of $554,603. As a contrast to this, Mr. Fuller's estimate of depreciation, based upon pre-war book costs, is taken at $644,230. His estimate for depreciation based upon the prevailing costs is $838,935 and his first estimate is made up partly from an analysis of the books and partly from an examination of the property. An average of his two figures is $741,582. As a check on this, if we take Mr. Fuller's estimate of depreciation on the pre-war basis and add to this the allowance for depreciation (20 per cent.) as used in connection with this property, we have an allowance of depreciation on a present day normal basis of $773,076. The replacement of the cement mains in Elizabeth with cast iron will add very considerably to the charges to capital account and to the investment in this company's property. This should be taken account of at this time, as the changes have been under way some little time and are to be prosecuted to practical completion as soon as the company is able to finance the expenditures. In lieu of the allowance of any definite sum in the present capital base to cover the added cost for cast iron mains, the deduction for depreciation will be limited to the amount estimated by the company. If the higher figures found in some of the other estimates, both of Hill and Fuller, were to be taken, it would be necessary to add definitely

to provide for the increased cost of iron over cement."

In this course the Board erred in that it wholly overlooked and disregarded the fact that the company's estimate did not take into account *obsolescence or functional depreciation.*

The estimate accepted was that prepared by the witness, Hill.

A reading of his testimony (Case, p.) makes it clear that he did not take obsolescence and functional depreciation and the consequent inefficiency of the plant into account either in its effect upon fair value or on operating expenses.

That obsolescence and functional depreciation existed to a large extent in the plant is made clear by reference to specific instances (Case, pp. 595, 601, 668, 671, 771, 861).

It is further made clear, and its effect on operating costs indicated, by the uncontradicted testimony of the witness, Fuller, produced on behalf of the prosecutor as to the cost of a modern plant and its operation (Case, p. 807).

These facts and this testimony the Board erroneously disregarded and ignored.

The Board further disregarded in this connection the fact that with respect to the properties of the Piscataway and Raritan companies, which properties had been in existence some twelve (12) years, the estimate of accrued depreciation made by the appraisers of the company, and accepted by the Board, was less than the aggregate of the claimed allowance in operating expenses for annual depreciation for two (2) years (Case, pp. 832, 833).

(d)

In the value of the property as determined by the Board more than seventeen (17) per cent. was included to cover the so-called "overhead charges," representing estimated expenditures in tying together the component parts of the property and converting the same into a going, operating plant.

Galveston v. *Galveston* (U. S. 66, L. ed. 382).

To the value into which these estimated so-called "overhead charges" entered, the Board added "To cover all allowances for intangible elements, we are of opinion then an allowance of 10 per cent., which is practically the basis, although not the amount claimed by the company, is ample and sufficient—$412,998" (Report, Case, p. 31).

In this course the Board erred. It overlooked the fact that the statute imposes the burden of proof upon the company; that the basis for such allowances must be proven; that they cannot rest on surmise; in other words, that there must be evidence to justify the finding.

In *Elizabeth Gas Light Co.* v. *Board of Public Utility Commissioners,* 111 Atl. 729, Swayze, *J.,* said: "I am inclined to think that the amount allowed by the public utility commission for the value of the plant as a going concern may suffice, but I do not find that there was any evidence in the case to justify the figures, and under section 38 as amended (P. L. 1918, p. 304) the order may be set aside where it clearly appears that there was no evidence before the Board to support, reasonably, the same. This makes it necessary that there should be evidence to justify

the finding, and that I do not find. It is, of course, a very difficult matter to determine the value as a going concern of a business property, and I see nothing to require me to decide now that the amount claimed by the companies for this value is conclusively established by the evidence."

There is nothing in the record before the Board upon which this allowance by the Board may be reasonably rested.

The only testimony on this subject is that of the witness Hill, who estimated the "going cost" or "total intangible value" of the property of the Elizabethtown Company at $434,496 (Case, p. 386).

A single quotation from his testimony will demonstrate that it cannot suffice and justify the allowance made by the Board (Case, p. 386).

This witness was asked: "Will you tell us whether this $434,496 which you have included as going cost, was actually incurred by the Elizabethtown Water Company or is it a value which you think this plant has, due to the fact that it can earn a revenue in excess of the ordinary interest return on the value of the tangible property?

He answered: "Well, it is, I should say, a combination of both. In the absence of the data which would enable one to determine the actual cost of development, so-called, I assume it proper from the knowledge of the cost of development of these properties, to assume that there is a cost in connection with their development. While this does not represent an actual cost to determine, it represents a measure of what that cost would be, coupled with my judgment of what a going

operating property would be worth in excess of one which was not going and operating."

Again he was asked: You could not base it upon actual costs for that purpose, made by this company?" and answered "No" (Case, p. 387).

At another point the witness referring to this allowance says: "I think a good word is the cost of attaching the business to the property" (Case, p. 191).

That the witness here has reference to losses in revenue in the "early stages" of the development of a company clearly appears from his testimony.

The Elizabethtown Company was organized in 1854. Is an allowance of ten per cent. of the present value of the property of the company justified on the basis of speculation as to possible losses in revenues in the early stages of the development of its business, when the record discloses that at all events over a period of some twenty years the company has met its operating expenses and fixed charges, has declared dividends and built up a surplus?

See:

Galveston Electric Co. v. *Galveston* (U. S. 66 L. ed. 382).

Is an allowance of ten per cent. of the present value of its property justified on the score of surmise and speculation as to possible losses in revenues in the early stages of the development of the company's business?

Point VI.

The Board in its determination erred in other respects in fact and in law, *and the court below in affirming its order likewise erred.*

The company proposed to increase fire hydrant rates in the City of Elizabeth from $10 per hydrant to $15 per hydrant (Case, p. 11).

The number of such hydrants is 596 (Case, p. 47).

The Board, however, provided (Case, p. 46):

A fixed charge for each hydrant owned by a municipality to cover leakage, maintenance and inspection of $2 per annum.

"For each hydrant owned by the company, to cover leakage, maintenance, inspection, and all fixed charges on the hydrant, its valve, branch, etc., $10 per annum.

"In addition to the charge per hydrant, there will be a charge covering the interest, depreciation, taxes, maintenance and net return on that portion of the system of the company required for fire protection purposes, which has been estimated at 13.0 per cent. of the gross revenue of the company, averaged for 1920 and 1921. This charge is to be made up by charging one cent (1¢) per inch diameter per foot of mains. This includes all of the mains lying within Elizabeth and that portion of the transmission lines lying outside of the City of Elizabeth as is needed to supply the water to Elizabeth. The transmission lines outside of Elizabeth are allocated to the various municipalities served by the Elizabethtown Water Company, in proportion to the population in each, and are shown in the following Table "F."

"Note—The inch feet of any main may be ascertained by multiplying the length of the main in feet by its diameter in inches."

The rate so imposed by the Board increased the charge not merely beyond the then existing rate but beyond the rate proposed by the company, and multiplied the existing rate many times.

What the Board says with respect to the basis for this radical change and increase is simply (Case, p. 38):

"A study of the allocation of costs for various classes of service indicates that the larger and more densely populated the municipality, the smaller is the percentage chargeable to fire protection. In the case of the Hackensack Water Company, the largest company in the State, and serving a larger territory, the amount charged to fire protection was found to be 12.5 per cent. of the gross revenue. In our opinion, the Hackensack method of allocation should be used for the Elizabethtown Water Company. The amount of gross revenue, therefore, to be collected through fire protection charges will be taken at about $104,016 for the mains and hydrants in place as of December 31st, 1920, and the remainder is to be collected from private water service (the industrial and domestic consumers of water)."

The record before the Board was wholly without evidence on the basis of which an allocation of costs of service as between public consumers afforded fire protection service and private consumers could be made. The offered statements in company's exhibit (Case, pp. 907, 1012) would it is submitted not affect a reasonable basis for such allocation.

Yet the Board made such allocation.

The allocation, therefore, was either made (1) arbitrarily or (2) upon evidence not before the Board.

In fixing the rates for this service, on the basis of the allocation so made, the Board, as before shown, proceeded upon the assumption of an adequate and proper service, whereas the Board found, in accordance with the fact, that the service rendered was inadequate and improper.

An examination of the Board's Report will show that the Board in fixing the rates made assumptions as to conditions which would exist when all consumers were on metered basis.

Whether and when this condition of things will exist the distant future alone can determine.

Progress in metering the service depends wholly upon the will of the company and its financial ability.

In these assumptions the Board wholly ignored the testimony to the effect that metering all consumers would result either in lessening operating costs or increasing revenues (Case, p.).

This testimony stands uncontradicted.

Ignoring this testimony the Board proceeded in fixing the rates on the assumption that the installation of the meters would lessen the revenue.

(c)

An examination of the Board's report will show that the Board arbitrarily increased the rates of flat-rate consumers on an assumption as to conditions that may exist ultimately when the system is completely metered; when there will be no flat-rate customers; and when it may

be necessary to increase the rates to metered consumers to meet the then conditions.

Such a course has no regard for actual existing conditions. It is predicted upon mere speculation as to possible future conditions, without any basis for determining when, if ever, such conditions will exist, since the complete metering of the system, and the consequent passing of the flat-rate consumer, rests in the control of the company and depends upon its ability to finance the necessary expenditures.

In this connection the Board merely said (Report, Case, p. 41):

"As all of the customers of the company will probably be served through meters within a period approximately a year or two, the flat or fixture rates do not require more extended consideration, but during the period of transition they should be proportionally increased in order to remain on a general parity with the metered schedules."

Conclusion.

It is respectfully submitted that because of the considerations herein set out it is "equitable and just" that a re-hearing should be had before the Board of Public Utility Commissioners and that the record before this Court should be remitted to the Supreme Court, to the end that said Court may order that such rehearing should be had before said Board upon such terms and conditions as are reasonable (P. L. 1918, ch. 130).

October 30th, 1923.

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The Evening Post Job Printing Office, Inc., 154 Fulton St., New York, N. Y.

New Jersey Court of Errors and Appeals.

CITY OF ELIZABETH, Prosecutor-Appellant, AGAINST BOARD OF PUBLIC UTILITY COMMISSIONERS and ELIZABETHTOWN WATER COMPANY, Defendants-Respondents.	On Certiorari. On Appeal from New Jersey Supreme Court.

BRIEF FOR ELIZABETHTOWN WATER COMPANY, DEFENDANT-RESPONDENT.

After prolonged hearings extending from May 19, 1921, through April 5, 1922, at which voluminous testimony was taken and extensive exhibits submitted, in a contest bitterly fought, the Board of Public Utility Commissioners handed down a decision fixing rates for the Elizabethtown Water Company, and its associated companies, to take the place of schedules proposed by the Companies. The schedule of rates fixed by the Board were an increase over the then existing rates but were less than those filed by the Companies and differed further in arrangement as between different classes of service.

In its order the Board found the value of the Company's property and took into consideration the service being rendered, its needs and requirements, its value, the effect of metering on revenues, operating expenses, depreciation, rate of return and fire service, and made findings on each and every

one of these matters. The prosecutor took the case before the court below and advanced every argument that it had urged before the Board, all of which had been duly considered by the Board, and as to all of which the City's contentions were overruled (pp. 906 through 920, inclusive; Service, p. 910, line 34; p. 926, line 30; The effect of metering on revenues, p. 922, line 1 *et seq.;* p. 918, line 30 *et seq.;* Operating expenses, p. 923; Depreciation, p. 925, line 10 *et seq.;* Rate of Return, p. 925, line 30; Fire service, pp. 906 *et seq.*).

The findings made by the Board have now been reaffirmed by the Supreme Court and have been made the findings of that court by a *per curiam* opinion filed on June 5, 1923 (P. III). In that opinion the Supreme Court expressly covers the following findings:

1. As to the value of service:

> "We think the evidence amply justified the increase granted" (P. VI, line 5).

2. As to valuation, including overhead allowance, etc.:

> "There was evidence which justified the results arrived at by the Board and they will not be disturbed in view of the fact that there is evidence which will support the finding of the Board" (P. VI, line 12).

3. As to the easements:

> "We find that the Board did not value the easements as if owned in fee, but valued them as easements" (P. VI, line 16).

4. As to the 36-inch main:

> "We approve the inclusion of the entire valuation of the 36-inch main, assuming for the time being it is larger than is now required. It was constructed according to dimensions approved by a competent engineer" (P. VI, line 17).

5. As to the fire service charge:

> "We find nothing unreasonable in the apportionment of the cost of fire service" (P. VI, line 31).

These are the findings of the Supreme Court. According to principles well established by this court, the sole question here to be considered is whether there is any proof to sustain them.

Hackensack Water Company v. *Board,* 96 N. J. L. 184, 187;
Vreeland v. *Bayonne,* 60 N. J. Law, 168;
Beecher v. *Board,* 65 N. J. Law, 307;
Tuckerton R. R. v. *State Board,* 77 N. J. Law, 614.

We will show in subsequent points of this brief that there was ample evidence to sustain them.

The appellant contends that the court below erred in failing to exercise an independent judgment, both as to the law and the facts; and further that the Board, in making the findings affirmed by the court, erred in considering data not in the record when it came to weigh the evidence before it. We contend that the principles of law expounded in the learned brief for appellant have not been violated in the present case.

New Jersey State Library

POINT ONE.

There is nothing in the opinion of the Supreme Court to show that the Court abdicated its functions and did not exercise an independent judgment as to the facts in this case.

It is obvious from reading the opinion of the court that the record in the case was considered by the court, and in affirming the findings the court did not merely accept the views of the Board, but considered whether the findings were *reasonably* supported by the evidence. The language of the Statute is:

> "The Supreme Court is hereby given jurisdiction to review said order of the Board and to set aside such order in whole or in part when it clearly appears that there was no evidence before the Board to support reasonably the same or when the same was without the jurisdiction of the Board" (Pub. Util. L. § 38, amended by Ch. 130, L. 1918).

This has been construed by the Supreme Court as requiring a weighing of the evidence and not merely an examination to see whether there is some proof, so that when that court finds that "there is evidence which will support the finding of the Board" we have in effect a finding that the proof, after being duly weighed, does *reasonably* support the conclusion. In this case the language of the court below leaves no doubt that the court was passing on the weight of the evidence as well as on the question of whether there was some evidence to support the findings. After its discussion of the value of the service, the court says:

> "We think the evidence *amply justified* the increase in rates granted." (Italics ours.) (P. VI, line 5.)

As to the valuation, the court said there was evidence "which *justified* the results arrived at by the Board." (Italics ours.) (P. VI, line 12.)

If these phrases mean anything, they mean that there was not only evidence, but there was sufficient evidence; that there was not only some evidence, but that there was evidence of a sufficient weight and character reasonably to support the findings. The same thing is true with respect to the other findings made by the court.

The Courts of this State are responsible for two of the leading cases establishing the law that a Board's findings must be subject to judicial review as to the weight of the evidence on which they rest. *Erie Railway Co.* v. *Board of Public Utility Commissioners,* 89 N. J. Law, 57, at page 68; 90 N. J. Law, 672, at page 673; *West Jersey Railway Co.* v. *Board of Public Utility Commissioners,* 87 N. J. Law, 170. A careful reading of the opinion in this case shows that the Court here has not violated the principles which New Jersey was thus among the first to state.

POINT TWO.

The Court below held correctly that the order of the Board should not be set aside on the ground that the Board, in weighing the evidence before it, considered data not a part of the record.

A perusal of the record in this case shows that the opportunity to cross-examine was ample and fully availed of; and further, that there is no essential fact which was not covered by the evidence.

When the Board came to weighing the evidence as to the inventory and the unit prices to be applied in valuing the items thereon, the Board said that

the inventory was "checked by the engineers of the Board and the appraisal itself was subject to careful analysis by study of the unit prices and a comparison of the prices used with similar figures used by the Board in other appraisal work" (P. XXIV, line 8). This is the portion of the Board's Report which is the basis of Prosecutor's argument.

It will be noted that only two matters are complained of here: First, that the inventory was checked; second, that the unit prices were compared.

There was no serious dispute as to the inventory, yet we conceive that if the Board had not checked the inventory it might have been criticized, because the record shows that the engineer employed by the City, who accepted the inventory as a whole (p. 791, line 24) made only a very cursory inspection (p. 858, line 20, p. 859).

The inventories were prepared by Mr. Hill and were in evidence, Exhibits P-3 and P-4. There was no evidence to show that the items thereon were not actually owned by the Company. The Board could have made the finding as to the inventory which it made without any check. It is difficult to conceive how anybody was injured, therefore, by the fact that the inventory was checked by the Board.

It is true that there was some conflict of testimony as to whether some of the property should be included as used and useful, but nothing specific is pointed out in the brief below or in the brief here, except the dispute as to whether the 36-inch main should be included, which is discussed below in Point Six. The evidence amply sustained the finding that it should be included.

As to the unit prices, the Board adopted only 20% higher than pre-War prices (Record, p. 31, line 10). The evidence would have sustained a higher percentage, for Mr. Weston Fuller, called by the City, and Mr. Hill, called by the Company, both

agreed that the unit prices at the time of the valuation were from 22% to 48% higher than pre-War prices. Mr. Fuller says: "The general average of all commodities used by this Harvard Committee, I think is 33% above pre-War prices" (Record, p. 824, line 4; see Hill, p. 177, line 31, and Exhibit P-10, p. 1044). The United States Government Index Numbers, published by the Bureau of Labor Statistics, for October, 1923, show that today's level is 56% higher than in 1914. If any one was injured by the fact that the unit prices adopted by the Board were only 20% higher than pre-War prices, it was the Company and not the prosecutor.

The court below was therefore quite justified in its holding that no substantial right of the prosecutor was shown to have been violated by either the checking of the inventory, or by the comparison of the unit prices testified to in this case, with the figures used by the Board in other appraisal work.

We would be the first to condemn a violation of the rule that the decision of the Board must be based on the evidence before it. We submit that the Board in this case did not violate this rule. The limitation on the rule is illustrated by two cases:

In *Law* v. *Railroad Commission of California,* 195 Pac. 423; 184 Cal. 737, the court says:

> "Petitioner raises the objection that the opinion and order of the Commission referred to findings made in another proceeding. * * * This reference was made only by way of amplification for the purpose of indicating the attitude of the Commission in a previous parallel case. Nothing appears to suggest that the present proceeding was not independent and complete in itself or that the conclusion of the Commission was not based solely upon the facts presented therein."

The rule, therefore, is that although the conclusions of the Commission must be based on the evi-

dence before it, the Commission may consider matters of record or of common knowledge in weighing such evidence.

In *Lincoln Gas Company* v. *Lincoln,* 250 U. S. 256, the Supreme Court of the United States took judicial notice of the fact that there had been an increase in the level of prices during the four years that had elapsed since the Master rendered the report, which was before the court for review. It is preposterous to contend that in this case the Board could not make use of the common knowledge that there has been an increase in all values since 1915, in determining what weight to give to the evidence on unit prices.

The form of the schedule adopted by the Board in this case is that which has been tested in the courts of New Jersey in the *Hackensack Water Company* case. Certainly the Board had a right to consider the decisions of the courts in determining the proper distribution of the rate.

We submit the Supreme Court was fully justified in its conclusion:

> "We think the Board was within its powers in using the knowledge which it had obtained in other proceedings of unit prices and in using its engineers to check the inventory. It would be almost impossible for any Board not to use the knowledge which it has obtained in other proceedings in weighing the evidence in the case which it has under consideration, and to mould the form of its schedule along the lines of those schedules which had been tested in the courts and approved" (P. VI).

POINT THREE.

The rates attacked by the municipality in this proceeding are not those filed by the Company, but are those prescribed by the Board. The burden of showing that they are not just and reasonable was on the prosecutor and was not sustained.

In this case the Company's schedule was set aside by the Board, and a new schedule prescribed by the Board (Record, p. 51, line 1). The burden of showing that the change or alteration made by the Board is not just and reasonable is not upon the public utility. The Statute, putting such burden on the utility, only applies to changes or alterations made by the utility in existing rates.

New Jersey Public Utility Law, Chap. 195, L. 1911, Section 17-*h*.

This is the general rule.

Duquesne Light Company v. *Public Service Commission* (Pennsylvania), 117 Atl. 63;

Suburban Water Company v. *Oakmont,* 268 Pa. 243.

We submit that the Court below was fully justified in finding that this burden was not sustained by the prosecutor.

POINT FOUR.

There is nothing in the case to sustain the contention that the Board fixed a rate in excess of the value of the service, and the Court's finding with respect thereto was justified by the Record.

On the motion which was made to the Board by the municipalities for a reopening of this case, the Chairman of the Board stated:

> "Commissioner Osborne—The Board took into consideration when fixing the rate, which was less than the rate filed by the company, the character of the service; that was considered as part of the case; it was in the evidence; it was taken into consideration in fixing the rates which were fixed" (p. 910, line 34).

We dispute the statement in prosecutor's brief "that the property and service were in fact, and that the Board found them to be, inadequate and improper, is indisputable". There was no finding that the property was inadequate and improper. There was no finding that the service was improper. As a matter of fact, the Supreme Court has adjudicated that the service which this Company renders to Elizabeth was proper and reasonable under the conditions confronting this Company. That decision was never appealed and stands today as the law in this case (Record, p. 116, line 10).

Elizabethtown Water Company v. *Board*, 119 Atl. 284, decided June 7, 1921.

Counsel for the prosecutor overlooks the fact that the service under the Statutes of New Jersey must be reasonable, as well as adequate. What is reasonable under certain conditions may not be reasonable under others.

The prosecutor in its brief quotes largely from the order of the Board which the Supreme Court set aside in the last cited decision. That order of the Board required the Company to install meters and other equipment to improve the service. The court held that the order was unreasonable because the Company could not, with its existing rates, finance the installation of this equipment. The court, on June 7, 1921, said:

> "The record shows that it is impossible for the Company to comply with the order. We think it is unreasonable to make an order that the Company cannot comply with. It is like the order to make 'bricks without straw', and this has been regarded as unreasonable from time immemorial" (119 Atl. 284).

The Prosecutor claims that this ruling simply applied to the installation of meters. This is not so. The installation of meters was but one of the things which the Board in that order directed the Company to do to improve its service. The real improvement in the service required the development of a source of supply outside of Union County. The pressures maintained in Elizabeth and the quantities of water available are all that can be furnished without this additional source of supply, as stated by the Board:

> Commissioner Osborne: (The Company) "seem to be reaching out everywhere they can to enhance their supply, so that they can pass it on to the consumer. Now, a company that is obliged to go to twelve places for water cannot be in a very good situation for turning on all the pressure that the community might need on short notice, or sometimes on long notice" (Record, p. 122, line 15).

Meters would only be a slight help. The requirement as to meters would cost perhaps $200,000. The court held it unreasonable. It follows that if

it is unreasonable to require an improvement which would only cost $200,000, it would be unreasonable to require an improvement which could only be made by the expenditure of $3,000,000, namely, the development of an additional source of supply (p. 91). The holding then of the Supreme Court was a finding and determination that the service which the Company was then rendering was reasonable, under the circumstances surrounding the Company, and that no additional service could be required without providing additional revenues.

The present proceeding grows out of the effort of the Company to secure the additional revenues.

A reasonable rate is one which enables the Company to perform its public duty of furnishing service. It is unreasonable to fix a rate so low that the Company cannot perform this duty. The Board has an affirmative duty to fix a rate and take other important steps to enable the Company to put itself into position to render the service, which although proper and reasonable under existing conditions, should be improved.

In *Public Service Company* v. *Public Utility Board,* 84 N. J. Law, 463, affirmed 87 N. J. Law, 581, the court held that the rate must be sufficient not merely to give a fair return on the fair value of the property devoted to the public use, but also sufficient "to induce the investment of capital in the business and its continuance therein".

In *O'Brien* v. *Public Utility Board,* 92 N. J. Law, 44 (affirmed 92 N. J. Law, 587), the court said (p. 52):

> "The Act contemplates a regulation of still existing public utilities for the benefit of the public and not their destruction."

An illuminating exposition of this duty of the Board is found in the opinion of Chief Justice Taft,

in *R. R. Commission of Wisconsin* v. *C., B. & Q. R. R. Co.,* 257 U. S. 563, page 585. In that opinion, the Chief Justice points out that when the original Act to regulate commerce was passed in 1887, its purpose was to insure uniformity of treatment among shippers and to prevent extortion. That under this Act restrictive regulations stifled railroad development and the Transportation Act of 1920 "imposed an affirmative duty on the Interstate Commerce Commission to fix rates and to take other important steps to maintain an adequate railway service for the people of the United States" (*Ibid,* p. 585).

The New Jersey Statute recognizes this principle.

Section 16-*c* imposes upon the Board the duty to fix just and reasonable rates which shall be *sufficient* as well as fair.

In this case the Company applied to the Board for an increase in rates to enable it to perform and continue to perform its public function. The very condition of giving an improved service was that the Company should have a sufficient income to induce capital to invest in the business. This is a condition imposed by the investing public, namely, that before new capital will flow into the business the capital already invested must be in receipt of a fair return (Record, p. 98, line 9). The City contended at the outset of the case, at the conclusion of the case, and now in this appeal, that the Board should have ignored its duty and refused to permit the Company a fair return on the capital invested in the business, thus making it impossible for the Company to continue in business.

The Board overruled this contention.

As the Chairman of the Board said:

> "Commissioner Osborne—What are you going to do with the Supreme Court which says they cannot be expected to make bricks with-

> out straw in this very case? * * * How can we conform to the mandate of that tribunal unless we give them a rate which will enable them to do the thing which you say ought to be done, that is to say, to raise the capital to make the improvements necessary to give the service that you admitted they should have" (p. 926).

And again on page 927:

> "Commissioner Osborne—The character of service and the necessity of the Company to raise additional capital, was all fixed with that in mind."

The Supreme Court, below, also overruled this contention, saying:

> "The policy of the law is and should be to aid utilities to properly function and to render adequate service to the public by permitting rates to be charged for the service rendered which will yield an adequate return upon the capital invested, maintain the property, and attract capital. The policy should never be one of destruction. *O'Brien* vs. *Public Utility Board*, 92 N. J. L., 44. A starved utility is in no better position to render proper service than a starved horse or a motor car without fuel."

The Company contends that the value of the service which it was rendering and which the court held reasonable under the circumstances, is the cost of that service. This contention was upheld by the Board on ample evidence, and the Board's conclusions and findings were affirmed by the court below. There is no evidence in the record to show that the service is worth less than it costs. The cost of the service consists of the operating expenses and taxes, the annual depreciation, and a fair return on the fair value of the property. Evidence was

submitted covering all of these points. See in particular the summary of Exhibits, Volume III of the Record, Exhibit P-4, pages 942 to 980, and in particular Exhibit P-5, page 980 through page 1042. Supported by Mr. Hill's testimony, commencing at page 129. (Valuation, p. 144, line 15, to p. 195, line 20; Return p. 195, line 34, to p. 199, line 10; Annual Depreciation, p. 195 line 25; Operating Expenses p. 202, line 30; Taxes, 205.)

All this testimony was based on the system "in its present condition and with its present efficiency". The present plant was distributing 20,313,537 gallons daily. Of this only a little over 6 million gallons were purchased, and the balance was pumped from sources owned by the Company and its affiliated companies (see Exhibit P-7, p. 1043). In order to increase the efficiency, it was necessary to develop additional water supplies, which would greatly increase the cost and require a much higher rate than that which the Board fixed in this case.

As Mr. Whelan, the Superintendent of the Company, says:

> "The first step necessary is that the Company should receive a fair, adequate and sufficient return for the service which it is rendering and when this is secured it will be in a position to take the next step" (p. 93, line 1. See affidavits, p. 85, p. 89, line 30, through p. 93, line 5).

The Company asked for an increase of 50% (Record, p. 206, lines 20 to 30). The rate schedules fixed by the Board only gave an increase of 30.5% (p. 34, line 20, to p. 35, line 12).

The record fully bears out the finding of the Supreme Court, "We think the evidence amply justified the increase granted".

POINT FIVE.

The Supreme Court's finding adopting the valuation, made by the Board and used in testing the fairness of the rates, was amply supported by the evidence.

Mr. Nicholas S. Hill made a careful inventory of the entire property and appraised it by various criteria of value. He appraised it at pre-war prices, at average prices for 10 years, and formed an opinion as to its fair value as a whole, using these different appraisals and a great mass of other data as a guide to his judgment (Record, pp. 144 to 165, Exhibits P-1, P-2, P-3, and especially P-4, pages 942 *et seq.*). The total valuation which he placed on the properties was $5,370,000. Mr. Weston Fuller, for the City, submitted an estimate, based on the cost of a hypothetical plant which would give the same service under ideal conditions (Record, p. 808, line 20). The value he put on the plant was $3,376,000 (p. 814, line 10). The Board arrived at a valuation as of the same date, of $4,650,000.

The Board rightly considered the comparative plant method too speculative. Applying the principle stated by Judge Savage in the *Kennebec Water District* case, 97 Maine, 185, at page 216:

> "We think the inquiry along the line of reproduction should, however, be limited to the replacing of the present system by one substantially like it. To enter upon a comparison of the merits of different systems would be to open a wide door to speculative inquiry and lead to discussions not germane to the subject. It is this system that is to be appraised in its present condition and with its present efficiency."

The chief departure from the appraisal submitted by Mr. Hill and the valuation adopted by the Board was a reduction in the unit prices. The Board added 20% (instead of 40%) to the pre-war prices to cover the increase in values due to the permanent increase in the level of values (p. 31, line 10).

Actual costs could not be accurately obtained in this case, but even if they could, there has been a permanent increase in the level of prices, since most of this plant was built.

In *Alton Water Company* v. *Illinois Commerce Commission,* 279 Fed. 869, the court said:

> "The original investment or actual cost could have no great bearing upon the question of rates unless the actual cost was incurred under conditions and prices which are substantially the same as the conditions and prices prevailing at the date of the inquiry."

"* * * prices over a long period of years have increased" (Fuller, p. 791, line 8). "Prices of everything that entered into water works is 50% higher than pre-war prices", Exhibit P-10 (Fuller, p. 824).

It follows, therefore, that the fair value of the property is greater than the cost and greater than on the 1914 or pre-war level of prices. Mr. Hill estimated the permanent increase in prices as somewhere between 25% and 40% (p. 177 *et seq.*). Mr. Fuller stated that at the end of November (1921) general commodities were 22% higher than pre-war level, and labor 48% higher. He said: "Prices have held pretty nearly constant for the last few months" (p. 822, line 37). Building materials have not dropped as much as the average of other commodities (p. 825).

The following authorities establish that an allowance must be made for the increased level of values:

> *Elizabethtown Gas Light Company* v. *Board of Public Utility Commissioners,* 111 Atl. 729; 95 N. J. L. 18;

People ex rel. New York State Railways v. *Public Service Commission,* 202 App. Div. 576;

Petersburg Gas Co. v. *Petersburg* (Va. Supreme Court of Appeals), 110 S. E. 533;

Potomac Electric Power Co. v. *Public Utility Commission,* 276 Fed. 327;

Winona v. *Wisconsin Minnesota Light & Power Co.,* United States District Court of Minnesota, March 4, 1920, P. U. R. 1921-A, page 146;

Joplin & Pittsburgh Railway Company v. *Public Service Commission of Missouri,* United States District Court, November 10, 1919, 267 Fed. 584;

St. Joseph Railway Light, Heat & Power Company v. *Public Service Commission of Missouri,* United States District Court, November, 1920, 268 Fed. 267;

People ex rel. Iroquois Natural Gas Company v. *Public Service Commission,* 194 App. Div. 578;

Public Utility Commission v. *Springfield Electric Company,* 125 N. E. 891;

Lacross v. *Railroad Commission,* 178 N. W. 857;

Consolidated Gas Company v. *Newton,* 267 Fed. 231;

Galveston Electric Company v. *Galveston,* 272 Fed. 147; affirmed 66 L. Ed. 382;

City of Minneapolis v. *Rand,* U. S. Circuit Court of Appeals, 8th Cir., 285 Fed. 818, January, 1923.

In *Petersburg Gas Co.* v. *Petersburg, supra,* Judge Burks says:

> "In *Elizabethtown Gas Co.* v. *Public Utility Com'rs.* (N. J. Sup.), 111 Atl. 729, the commission adopted as a standard of value the

> average prices prevailing for five years preceding January 1, 1916, Swayze, *J.*, speaking for the Supreme Court of New Jersey, said: 'I think it entirely clear that the failure to allow for prices at the time to which the rates apply, July 1, 1919, was an error' " (110 S. E. 533 at 539).

and Judge Burks quotes from this point of Justice Swayze's opinion almost to the end.

The position of the Company is supported by the foregoing cases, in each of which it was held that fair value must include an addition to pre-war prices to take care of the permanent increase in values since 1914. Some of the cases hold that an addition of 25% to pre-war prices is too little and results in confiscation. In the case of *Minneapolis* v. *Rand, supra,* the Circuit Court of Appeals added 50% to the cost price, holding that 25% additional was too low. The Court said:

> "Our conclusion is that the Master's increase of the undepreciated cost price of $6,485.777 by 25 percent is too low, and that this base should be increased by 50 percent or $3,242.888, making a total undepreciated valuation of the physical property of $9,727.665" (285 Fed. 818, at 827).

The United States Government Index Numbers published by the Bureau of Labor Statistics show (October, 1923) that today the price level is 52% higher than in 1914, and has greatly increased since January, 1922, when it was 38% higher.

POINT SIX.

The 36-inch main was properly included in the rate base.

The 36-inch main is in use, and the evidence showed that if the City is to have the service which it desires, the use of this main will be increased in the near future (p. 870, line 10).

The finding that this 36-inch main should be included in the property used and useful, is supported by Mr. Hill's testimony. Mr. Hill had made the closest study of this plant, and his opinion was backed by twenty years of experience in connection with actual operation and management of water works, as Chief Engineer of the Baltimore (Maryland) Water Department and the Water Department of the City of New York, as President of the Board of East Orange, and as President of the Consolidated Water Company of Suburban New York. The Board certainly was entitled to give greater weight to his testimony than to that of Mr. Fuller, who admitted that he had made but a cursory examination of the plant (Record, p. 857, line 11; p. 858, line 21).

Consolidated Gas Company of New York v. *Newton,* 267 Fed. 231 (affirmed 66 L. Ed., 42 Supreme Court Report, 164),

> "If it should appear that any plant is necessary for the *reasonable* future, that plant must be included, as it is today, at least at its value in modern cost of reproduction" (at p. 260).

POINT SEVEN.

The Court's finding adopting the value of the easements was correct. The Record shows that they were valued as easements and not as fees.

The rights of way were valued by Mr. Thomas Van Syckel, Mr. Townley and Mr. Fedor. These men were all experts in purchasing property and they based their values on their experiences in such purchases (Record, pp. 680, 718, 734). There was no evidence offered in opposition. These appraisers stated expressly that they appraised the easements as easements and not as fees (Record, p. 721, line 20; p. 785, line 10; pp. 686, 689). The Board accepted their appraisals.

POINT EIGHT.

The overhead allowance of the Board was not too high.

The computation of overhead allowances made by Mr. Fuller, Prosecutors' Expert, in estimating the cost of building a plant at the Raritan River (Record, p. 881, line 30), was 20% to cover interest during construction and engineering, taxes, legal expenses, and an additional sum of nearly $100,000 for contingencies. The Company's engineer testified that 17½% was a fair allowance for overheads in a water works case where the property is operating and an inventory carefully made. The allowance in the *Hackensack Water Company* case was 17½% (V, N. J. P. U. C. 176); in the *Commonwealth Water Company* case was 17½% (VI, N. J. P. U. C. 662).

In this case the allowance was less than 17½%.

POINT NINE.

The accrued depreciation taken by the Board was not too low.

The Board fully allowed for the fact that installing cement mains was no longer good practice, and that parts of the plant, although still functioning, were not modern. The principle which the Board applied was thus stated by Mr. Fuller, witness for the City, as the proper principle:

> "Some parts of the plant or pumping equipment may not be as good or as efficient as new equipment, but I think these were put in for the service of the public as required, and providing they were put in with reasonably good judgment they should be included so long as they are serviceable" (Record, p. 789).

There is no question that the pumping plant and the cement lined mains were put in for the service of the public, and that good judgment was used when they were installed. The use of cement lined mains was good practice at the time they were installed (Fuller p. 781, line 3).

The principle stated above by Mr. Fuller was applied strictly by Mr. Hill and by the Board. The pumps and other parts of the system which were performing and would continue to perform service were not excluded, but were depreciated, according to their condition. The Board carefully weighed the evidence in this respect, and their estimate was supported by the testimony.

Mr. Hill made a careful, thorough study of the plant and based his estimate of depreciation on the actual condition (Exhibit P-4, p. 950, line 10). The Board accepted this testimony. Mr. Fuller, whose acquaintance with the plant was merely cursory (p. 857, line 11; 858, line 21) had to resort to a theoretical depreciation.

One of the favorite devices for confiscation of property by under-valuation in rate making has been the use of a theoretical depreciation, calculated on a straight line method. This is condemned by the courts in modern decisions:

Murray v. *Public Service Commission of Idaho,* 150 Pac. 47;
Landon v. *Board of Industrial Relations,* 269 Fed. 433, 445;
Winona v. *Wisconsin-Minnesota Light & Power Company,* 276 Fed. 996, 1004;
Minnesota Rate Cases, 230 U. S. 352, at 457.
Public Service Gas Co. v. *Board,* 87 N. J. L. 581, aff'g 84 N. J. L. 463, Board's report 1 N. J. P. U. R. 491.

The Supreme Court of Idaho, in *Murray* v. *Public Service Commission,* says at page 50:

> "So far as the question of depreciation is concerned, we think deduction should be made only for actual, tangible depreciation, and not for theoretical depreciation, sometimes called 'accrued depreciation'."

In *Landon* v. *Board of Industrial Relations,* the United States District Court, Kansas, said (at p. 445):

> "It may not also be amiss to say further that in my judgment the element of depreciation should not be measured by a theoretical yard stick, but should be determined by a careful consideration of the actual facts touching the physical condition of each particular plant under consideration."

In *Winona* v. *Wisconsin-Minnesota Light & Power Co.,* the Court said, at page 1004:

> "* * * my view being that depreciation is something to be concretely determined by inspection, rather than by a theoretical yardstick, and that present efficiency is a very important factor. * * *"

In *Minnesota Rate Cases,* Justice Hughes said, at page 457:

> "It is also to be noted that the depreciation in question is not that which has been overcome by repairs and replacement, but is the actual existing depreciation in the plant as compared with the new one."

In the Passaic Rate case (*Public Service Gas Co.* v. *Board, supra*) the Board said (1 N. J. P. U. R. 491):

> "* * * The allowance for the valuation of the physical property cannot exceed the amount obtained by deducting from value new the depreciation as obtained by observation or inspection."

POINT TEN.

The allowance to cover the value of the property as a going concern was not too high.

The Court of Errors and Appeals of this State and the Supreme Court of the United States have held "that there is an element of value in an assembled and established plant doing business and earning money, over one not thus advanced, is self-evident".

Public Service Gas Company v. *Board of Public Utility Commissioners,* 84 N. J. Law, 463, affirmed in 87 N. J. Law, 581;
Denver v. *Denver Union Water Co.,* 246 U. S. 178, at page 192;
Lincoln Gas Company v. *Lincoln,* June 2, 1919, 250 U. S. 256.

The United States Supreme Court in the case last cited held that proof of unrequited development loss is not necessary to sustain the allowance of going value.

In *Denver* v. *Denver Union Water Co.*, 246 U. S. 178, that court held that going value exists, in addition to the aggregate original or reproduction cost of the physical property.

The Supreme Court has allowed it in cases even where franchises had expired.

> *Denver* v. *Denver Union Water Co., supra;*
> *Omaha* v. *Omaha Water Co.*, 218 U. S. 180, 191.

The Company does not claim that it is entitled to have *uncompensated* early losses made up to it, or that *uncompensated* early losses are the measure of the value of this plant as a going concern with the business established and attached over and above its value without such business. This method of ascertaining going value has always been absurd, because according to it a plant which had been unsuccessful from the beginning, and which never had made a profit, would be worth more than one which had been successfully conducted. This method received its quietus from Justice Brandeis, in the case of *Galveston Electric Company* v. *Galveston*, 66 L. Ed. 382.

The problem of appraising going concern value is one which must be met by some method. Mr. Hill used various methods of forming a judgment. He relied on the fact that an analysis of costs showed that it does cost something to attach a business. Business will not flow in of its own accord (Record, p. 191 and Ex. P-4, p. 957). He based his opinion on what should be added, largely on his experience in appraising many plants, and in actual operation of water works and in connection with the purchase of such properties (Record, p. 191, line 36; p. 192, line 10).

In his judgment, a water works property located as Elizabethtown Water Company system is, which has been in existence since 1854, which has consoli-

dated its business, developed its territory, attached its customers, made available water supplies for domestic use to the very limit of the territory to which its Charter confines it, and which has been a successful and profitable enterprise for many years, has a greater value than a plant which has just been organized and built and has not yet got its business established or attached. He appraised this element of value at 10% of the tangible properties. The Board adopted this percentage, but applied it to a lower base.

That the percentage was not excessive will appear from the following table of cases:

WATER CASES.

	Going Value Allowance.
Gloucester Water Supply Co. v. *Gloucester,* 179 Mass. 365, 383 (1908) ...	14.3%
Galena Water Co. v. *Galena* (Kansas) 87 Pac. 735 (1906)	25%
Newburyport Water Co. v. *Newburyport,* 168 Mass. 541, 555 (1907)	17%
National Water Works v. *Kansas City,* 62 Fed. 853 (1894)	17.8%
C. H. Venner v. *Urbana Water Works,* 174 Fed. 349 (1909)	16.3%
Des Moines Water Co. v. *Des Moines,* 192 Fed. 193, 197 (1911)	10%
Omaha v. *Omaha Water Co.,* 218 U. S. 180 (1910)	9.9%
Knoxville v. *Knoxville Water Co.,* 212 U. S. 1 (1908)	11.1%
Denver v. *Denver Union Water Co.,* 246 U. S. 178 (1918)	7.5%
Hill v. *Antigo Water Co.,* 3 Wis. R. Com. Rep. 623 (1909)	10.2%
Fond du Lac Water Company, 5 Wis. R. Com. Rep. 482 (1912)	12.1%

	Going Value Allowance.
Chicago v. *E. Chicago & Indiana Water Co.*, P. U. R. 1922-A, 193, 213 (1922)	9.4%
Indianapolis Water Co.—Rate—Indianapolis Commission, January 2, 1923, not yet reported	9.5%

OTHER CASES.

Public Service Gas Co. v. *Board*, 84 N. J. Law, 463; affirmed 87 N. J. Law, 581	27.9%
Pioneer Telephone Co. v. *Westenhaven*, 29 Okla. 429; 118 Pac. 354	20%
People v. *Willcox*, 141 N. Y. Supp. 681; affirmed 210 N. Y. 479	30%
Bonbright v. *Geary*, 210 Fed. 44, 51-54	30%

Love v. *Atchison, T. & S. F. Ry. Co.*, 177 Fed. 493, 496; affirmed 185 Fed. 321.

Metropolitan Trust Co. v. *Houston, etc., R. R.*, 90 Fed. 683, 687.

POINT ELEVEN.

The fire service charge fixed by the Board was not unreasonable.

There are in general two services rendered by the Company: The service to the private consumer and the service to the municipality for public purposes. These two services are different in character. As the Board says:

> "But for the necessity of supplying fire protection many of the mains could be very much smaller in size, nor would the pumps have to be the same capacity. They would merely have to be able to supply the amount of water needed by the customers as that water was

drawn from the mains. For fire protection, however, there must be mains of sufficient size in every part of the city to provide on the instant the large quantities of water required at a fire. The pumps and reservoirs must have sufficient capacity at the time of the fire to supply the very large quantity demanded only at such time and only for fire purposes.

It therefore appears that a very considerable proportion of the investment of a water company is required for fire protection purposes only."

Report of June 9, 1922, p. 2.

This was sustained by the testimony, and has been a well-recognized principle of rate making ever since the establishment of the Wisconsin Commission. See in particular the discussion by that Commission in the leading case of *City of Ashland* v. *Ashland Water Company,* 4 Wisconsin R. R. Com. Reports, pages 273, 292.

The apportionment of the costs in this case follows closely the apportionment of costs in that case. It is also the same as that used by the New Jersey Commission in the *Commonwealth Water Company* case, VI N. J. P. U. C. Reports, 662, 703-705, and the *Hackensack Water Company* case, V N. J. P. U. C. Rep., pages 176, 211.

The mere fact that a city is a customer is no just reason for departure from the general principle that the burden of costs must be equitably distributed among the customers in proportion to those which cause the cost in order to avoid discrimination. This principle is laid down and applied by this court in the case of *Hackensack Water Company* v. *Board,* 95 N. J. Law, 295; affirmed 96 N. J. L. 184. In that case the City of Hoboken attempted to justify a lower rate than was sufficient to cover its fair proportion of the costs of service, on the ground that it had a pre-existing contract, and the court held that this contract must be disregarded and the rate fixed for

Hoboken so that it would bear its fair share of the costs, regardless of the contract in order to avoid discrimination.

The same principle is applicable here.

The schedule of rates filed by the Company was not based on this principle, because the Company merely increased the then existing rates which had been established long before any scientific study had been made of the proper distribution of rate schedules. The Company, however, did submit the data necessary to make this allocation. This will be found for each of the Companies in Exhibit P-5, page 980. We particularly call attention to the discussion on page 997 with respect to the subdivision of the total service revenue between the fire service revenue and general water service revenue for the Elizabethtown Water Company, pages 1006 through 1013 for Piscataway Water Company, and especially page 1012, line 30; page 1023 for the Raritan Township Water Company, which does not render any fire service at present; page 1038 for the Watchung Water Company, commencing with line 1, running through page 1039, line 10. This data is also supplemented by Exhibit P-7, page 1043. In respect to this Mr. Hill was cross-examined at length, especially on December 1, 1921, page 654, line 10, *et seq.* Mr. Hill's direct testimony as to the division of rates commences at page 207, line 20.

The effect of metering was particularly discussed under questions by the Chairman of the Board, beginning at page 208, line 33.

An examination of the record and study of the exhibits demonstrate that the allocation was not made either "arbitrarily or upon evidence not before the Board". It was made in accordance with the principles prescribed by the Statute and approved by the courts, and was fully sustained by the evidence in the record.

POINT TWELVE.

The judgment should be affirmed.

November 5, 1923.

Respectfully submitted,

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New Jersey Court of Errors and Appeals

CITY OF ELIZABETH, *Prosecutor-Appellant,* *vs.* BOARD OF PUBLIC UTILITY COMMISSIONERS and ELIZABETHTOWN WATER COMPANY, *Defendants-Respondents.*	*On Certiorari.*

BRIEF FOR THE RESPONDENT BOARD.

Statement.

By the appeal in this case there is brought before this Court a judgment of the Supreme Court which affirmed in toto, on a per curiam opinion, an order made by the Board of Public Utility Commissioners allowing an increase in water rates to the Respondent Water Company (Case, pp. 19 to 56).

It appeared in this case in the Court below that the Water Company was created in 1854, for the purpose of supplying Elizabethtown and adjacent territory with water (Case, p. IV). The rapid development of the territory supplied resulted in an order requiring the Water Company to increase its water supply and install meters although no increase of rates was allowed at that time. This order of the Board was set aside on June 7, 1921, by the Supreme Court as unreasonable which decision is some times known as "to make bricks without straw" decision.

The Water Company made application thereafter for an increase in rates and the schedule filed by the company with the Board was not adopted but a new schedule of rates fixed by the Board. The municipality undertook the burden of reviewing the order by certiorari and failed in the

Supreme Court, and the reasons mainly urged on this appeal are;

(a) that the Supreme Court did not exercise independent judgment both as to law and facts in its review of the order of the Board;

(b) that the proceedings of the Board of Public Utility were irregular and informal and that such irregularity and informality impaired the substantial interest of the appellant.

POINT I.

The Supreme Court did not err in determining that the Board's findings and determination were made within statutory limits and upon evidence submitted at the hearing upon notice to the appellant.

Under the first point in the brief of the appellant reference is made to the statutory limitations within which the hearing before the Board must be confined and that only evidence produced at the hearing upon notice can be considered by the Board in its findings and determination. This respondent concurs in the citation of cases and references to the statutory law made by the appellant in its brief, but takes issue at the manner in which the law and authorities are applied in the instant case.

Section 16 of the Utility Act (P. L. 1911, Ch. 195) clearly limits the Board's power ~~and~~ in the fixation of rates upon evidence submitted at a hearing of which hearing the parties had full notice.

The prosecutor refers in its brief to the following excerpt from the report of the Board (Case, p. 24):

> "The inventory of the property was checked by the engineers of the Board and the appraisal itself was subjected to careful analysis by a study of the unit prices and a comparison of the prices used with similar figures used by the Board in other appraisal work."

This excerpt from the report of the Board when considered alone does not bear the construction that was placed thereon by the appellant. The respondent further contends that the entire report of the **Board should be considered.** When the excerpt is read together with the remainder of the report it clearly appears that the Board decided the case and fixed the rates upon evidence that was submitted at the hearing. The checking by the engineers and the reference to other appraisal work evidently was a "check" on the Board's conclusions already made upon the evidence in the case. It was no basis for the decision and amounted to nothing more than a dictum and if left unsaid would not affect the report or the conclusion.

The appellant contends the inventory referred to in the above-quoted part of the report "was prepared on behalf of and produced by the company" and "was the subject of controversey."

Common experience shows that the inventory in every rate case is the subject of dispute, but this does not preclude it from becoming evidential when offered by any of the parties to the controversy. In this case there was a large amount of material evidence sustaining the Board's conclusions.

The testimony of the witness Hill (beginning, Case, p. 129), and the exhibits offered by the company relating to the appraisal, were all evidential and the subject of cross examination by the appellant. Hill's direct testimony extends from pp. 129 to 210, of the case and cross examination from pp. 211 to 478 of the case. Hill (Case, p. 175) explains his appraisal and refers therein to Exhibit P. 4.

A witness, Fuller, for the appellant, also testified before the Board as to the valuation of the property of the utility (Case, pp. 765 to 937), as well as a number of other witnesses whose testimony appears in the printed case. The Board's report is based on all of the evi-

dence submitted at the hearing and not on anything without the hearing. The Board did not take the valuation of one witness, but accepted and rejected parts of the testimony of the witnesses of all the parties.

Hill for the company found for all the companies a value varying from $5,000,000 to $6,000,000 in round figures, depending on the different methods used in his calculations (Case, pp. 175 to 178, Exhibit P. 4).

Fuller for the prosecutor (Case, p. 787) placed the value at about $3,000,000.

The Board considered the various valuations made by Hill and Fuller (Case, p. 25) and did not take the value of either, but a value of $4,650,000 based on all the testimony (Case, pp. 25 to 33).

The Board considered the hypothetical plan method, but did not adopt it as it was too speculative. It considered the ten-year average price method; the book cost method and the current prices computations and did not wholly adopt any of those methods but built from all the material evidence in the case a valuation of its own fully supported by the evidence in the case.

The appellant under point one in its brief refers to the controversial testimony of property "used and useful in the public service" and states the Board did not decide this disputed question on the testimony but on the "check" of the engineer. This contention is clearly beside the facts as they appear in the case. The Board's report (Case, p. 24) refers to the testimony in the case of the "used and useful" property considered by it and specifically refers to that testimony and shows how each item in dispute was allowed or deducted (Case, pp. 24 to 33), and the reasons for the Board's conclusions, and in no place was any figure or computation of the Board's engineer taken. The same answer can be made to the "unit price" dispute (Case, p. 25). The testimony submitted by the witnesses sworn was all that was considered. It is true the Board stated the "prices used" by the Board

compared with other appraisal work in a similar case before the Board about that time. This reference to the other case was not the basis for the Board's conclusion but by way of illustration that the price found in the other case compared with the prices found in the instant case, or in other words, it was an expression by the Board that the unit prices found on the testimony in one case was the same as the unit prices found in another case on different testimony but the prices of similar items. This showed consistency in both cases.

Assuming, though not admitting, that the commission did consider its experience in the appraisal of unit prices and other prices and did consider the "check" made by its engineer, such experience is admissible by way of evidence, for the more experience the commission has the better judges **they are of the evidence.** The same reasoning applies to the reference of the "check" made by the engineer of the department. The Board did not decide the case upon the "check" made by the engineer and a reference to the engineer's check was only by way of amplification.

If the order made by the Board is justified by the proofs that is all that is required in this state.

> *Pennsylvania Railroad Co.* v. *Public Utility Commissioners,* 83 N. J. Law, at p. 70.

Under Section 38, P. L. 1918, Chapter 130, the Supreme Court has the right to review the order of the Board and to set aside this order in whole or in part, when it **clearly appears** that there was no evidence before the Board to **support reasonably** the same. The Supreme Court in construing section 38, in the case of the *Public Service Co.* v. *Public Utility Board,* 84 N. J. Law, at p. 466, held:

> "On its face this section confers jurisdiction upon this Court, but a jurisdiction of a limited character, only to be exercised when it clearly appears that there is no evidence before the Board to support their order or where the order is without their jurisdiction. If this language is taken literally,

> we should be powerless in any case within the jurisdiction of the Board to set aside its order if there was any evidence to support it, no matter how overwhelming the evidence to the contrary might be. It is needless to say that such a literal construction of section 38 would bring it into conflict with our constitution. It needs no act of the legislature to confer on us the power to review the action of an inferior tribunal, and the legislature cannot limit us in the exercise of our ancient prerogative. That the legislature did not intend to do so is made clear by a consideration of the whole act. We are, by the express terms of section 38, authorized to set aside the order when it is without the jurisdiction of the Board. The jurisdiction of the Board to fix rates is by section 16c limited to cases where the existing rate is unjust, unreasonable, insufficient or unjustly discriminatory or preferential. The only words important for the present cases are unjust and unreasonable, since the commissioners themselves went no further in their adjudication. To determine then whether the commissioners had jurisdiction, we must first determine whether the existing rate was unjust and unreasonable, and in determining that fact, we are not limited to the question whether it clearly appears that there was no evidence before the Board to support reasonably its order; section 16c does not purport to limit the scope of our inquiry into the fact, and we must, therefore, determine it in the usual way according to the whole of the evidence. Indeed, section 38 itself makes a distinction between the evidence required to support the order, and that required to sustain the jurisdiction. In the former case the language literally construed would prevent setting aside the order unless there was an absence of any evidence to support it. In the latter case all that section 38 requires is that it should clearly appear that the order was without the jurisdiction of the Board."

If the order of the Board is reasonably supported by the proofs, the Supreme Court was right in sustaining the order of the Board.

Erie Railroad Co. v. *Board of Public Utility Commissioners,* 85 N. J. L., at p. 420;

Hackensack Water Co. v. *Board of Public Utility Commissioners,* 89 N. J. Law, at p. 530;

Potter v. *Public Utility Commissioners,* 89 N. J. Law, at p. 160;

Collingswood Sewerage Co. v. *Collingswood,* 91 N. J. Law, at p. 21.

In the instant case the Supreme Court in its opinion disposed of this same reason assigned by the appellant, in the Court below, in the following language (Case, p. IV):

> "We think the Board was within its powers in using the knowledge which it had obtained in other proceedings of unit prices and in using its engineers to check the inventory. It would be almost impossible for any Board not to use the knowledge which it has obtained in other proceedings in weighing the evidence in the case which it has under consideration, and to mould the form of its schedule along the lines of those schedules which had been tested in the courts and approved. The burden is on the prosecutor to show in what respect the order impairs its substantial right. The Public Utility Act provides that 'no order shall be set aside in whole or in part for any irregularity or informality in the proceedings of said Board, unless such irregularity or informality tends to defeat or impair the substantial right or interest of the prosecutor in certiorari.' We feel that the prosecutor, in this respect, has not sustained the burden the statute imposes."

The appellant has not only failed to carry the burden that is upon it as stated in the decision of the Supreme Court, but it has wholly failed to show wherein the informality or irregularity defeated or impaired the substantial right of the appellant.

POINT II.

The judgment of the Court below is the result of an exercise of independent judgment both as to law and fact.

By contending to the contrary there is necessarily brought before this Court for construction Section 38 of the Utility Act, P. L. 1911, p. 388, as amended by Chapter 130, P. L. 1918, p. 304, which reads as follows:

> "Any order hereafter made by the Board may be reviewed upon certiorari by the Supreme Court. No certiorari to review any such order shall be allowed, unless application thereof be made within thirty days from the date upon which such order becomes effective, nor unless notice in writing of such application shall have been given to said Board, with a copy of the affidavits or proofs upon which such application is based; notice of such application shall be served upon the secretary of said Board, either personally or by leaving the same at the office of said Board in the City of Trenton. The Supreme Court is hereby given jurisdiction to review said order of the Board and to set aside such order in whole or in part when it clearly appears that there was no evidence before the Board to support reasonably the same or that the same was without the jurisdiction of the Board. The evidence presented to the Board, together with the findings, and the order issued thereon, shall be certified by the Board to the Supreme Court as its return. No such order shall be set aside in whole or in part for any irregularity or informality in the proceedings of said Board unless such irregularity or informality tends to defeat or impair the substantial right or interest of the prosecutor in certiorari. If, with respect to any order brought under review by certiorari, it shall appear equitable and just that a rehearing should be had before said Board, the Supreme Court may order that such rehearing be had upon such terms and conditions as are reasonable, and the said Board shall thereupon proceed to rehearing on the testimony theretofore taken before it, and upon which the order under review was based, and upon such additional testimony

if any, as may be produced. As the result of such rehearing the Board may readopt such order, or alter, amend, modify or extend the order theretofore made by it.

Whenever a judgment of the Supreme Court upon certiorari to review an order made by said Board shall be appealed to the Court of Errors and Appeals, and said Court of Errors and Appeals shall deem it equitable and just that a rehearing should be had before said Board, the said Court shall remit the record and proceedings before it to the Supreme Court, to the end that said Court may order that such rehearing may be had before said Board upon such terms and conditions as are reasonable as hereinbefore provided."

This section of the Utility Act has been construed by the Supreme Court and this Court in many cases. The first case in which the construction occurs is:

Public Service Co. v. *Public Utility Bd.*, 84 N. J. Law, p. 466.

"Under section 38 we are given jurisdiction to set aside the order of the commissioners **when it clearly appears** that there was no evidence before the Board to support reasonably such order or that the same was without the jurisdiction of the Board."

This section was again construed by this Court in

W. J. & S. R. R. Co. v. *Public Utility Bd.*, 87 N. J. Law, p. 178,

where the Court held in its opinion:

"That court can upon certiorari, or under the statutory procedure provided by section 38 of the act of 1911, review such action for the purpose of ascertaining whether or not it is purely arbitrary, whether or not it has a **reasonable** basis to rest upon, whether or not it is supported to any extent by the facts submitted to the Board for its consideration; and if it shall be made to appear to the court that such action is purely arbitrary, or that it has **no reasonable basis** upon which to rest, or is unsupported by the facts laid before the Board, the

court may declare it null and void, and order it to be set aside." (Blackface ours.)

A like construction was placed upon this Act by the Supreme Court in the case of

Erie R. R. Co. v. *Public Utility Com'rs,* 89 N. J. Law, p. 57,

which was affirmed by this Court in 90 N. J. L., p. 672.

This section was again construed in the case of

Elizabethtown Gas Light Company v. *Public Utility Com'rs,* 95 N. J. Law, p. 20,

where the Court stated:

"Under section 38, as amended (Pamph. L. 1918, p. 304), the order may be set aside where it **clearly appears** that there was **no evidence** before the Board **to support, reasonably,** the same. This makes it necessary that there should be evidence to justify the finding, and that I do not find." (Blackface ours.)

The essence, therefore, of the construction placed upon this section, according to the foregoing cases, is that the Supreme Court in reviewing the order of the Board should consider whether the findings by the Board were **reasonably** supported by the evidence.

In a review of a judgment in the Supreme Court in a certiorari case where there is any proof to support such judgment of facts this Court should not disturb the judgment of the Supreme Court.

Hackensack Water Co. v. *Bd. of Public Utility Com'rs,* 96 N. J. Law, p. 184,

wherein the Court held at p. 187:

"The Supreme Court, in this case, has held, by necessary inference, that the evidence before the Board would not reasonably support its conclusion that the rate fixed by it was a just and fair one.

This is a finding of fact, and the only question which this court will consider on a review of such a finding by the Supreme Court is whether there were any proofs whatever in the case to support

> it; for it is entirely settled that we will not consider alleged errors of fact in a review of a judgment of the Supreme Court, but only alleged errors of law. Vreeland *v.* Bayonne, 60 N. J. L. 168; Beecher *v.* Board of Street and Water Commissioners, 65 *Id.* 307; Tuckerton Railroad Co. *v.* State Board of Assessors, 77 *Id.* 614."

Upon turning to the opinion of the Supreme Court (Case, p. V) first paragraph, the following appears:

> "The policy of the law is and should be to aid utilities to properly function and to render adequate service to the public by permitting rates to be charged for the service rendered which will yield an adequate return upon the capital invested, maintain the property, and attract capital. The policy should never be one of destruction. O'Brien *v.* Public Utility Board, 92 N. J. L. 44. A starved utility is in no better position to render proper service than a starved horse or a motor car without fuel. We think the evidence amply justified the increase in rates granted."

Again beginning with l. 12 (Case, p. VI) of the opinion referring to the rate base, the Court said:

> "There was evidence which **justified** the results arrived at by the Board and they will not be disturbed in view of the fact that there is evidence which will support the finding of the Board." (Blackface ours.)

and again on the same page beginning with l. 31:

> "We find nothing unreasonable in the apportionment of the cost of fire service. It was made according to principles established and approved."

The use of the language "amply justify" and "evidence would justify the results" and "we find nothing unreasonable in the apportionment of the cost of fire service" are all expressions to the effect that the findings of the Board were reasonably supported by the evidence before it.

POINT III.

The rates found by the Board were just and reasonable and did not exceed the value of the service and the findings of the Supreme Court with reference thereto were fully supported by the record.

It is settled law that rates cannot legally exceed the value of the service rendered.

Smyth v. *Ames,* 169 U. S. 466;

Public Service Gas Co. v. *Board of Public Utility Commissioners,* 84 N. J. L. 463.

Numerous references are made to specific instances recited by the Board in its report of June, 1920, of the insufficiency and inadequacy of the services rendered by the utility. The Board by its findings and order in the 1920 case endeavored to remedy the poor service by requiring the company to install meters and make other improvements to the service. The company attempted to comply with the order of the Board, but could not do so in the time and manner prescribed and thereupon caused the Board's order to be reviewed on certiorari by the Supreme Court which resulted in a decision about a year later.

Elizabethtown Water Co. v. *Board of Public Utility Com'rs,* 119 Atl. Rep., p. 284;

wherein the Court held:

> "The Public Utility Commissioners ordered the Elizabethtown Water Company to install before December 31, 1920, meters for all industrial consumers, and for at least five thousand of those residing in tenements and residence property supplied with water for domestic services and between December 1, 1920, and November 1, 1921, to install meters for all customers of the company not included in foregoing, and that each and every new service connection made after July 1, 1920, should be metered. The writ in this case removed that order.
>
> It is conceded that the installation of meters is desirable. The only point we need consider

> against the order is that the company cannot get the money necessary to obtain the meters and do the work.
>
> There is testimony of credible witnesses to that effect. There is no evidence to the contrary. The record shows that it is impossible for the company to comply with the order. We think it is unreasonable to make an order that the company cannot comply with. It is like the order to make 'brick without straw,' and this has been regarded as unreasonable from time immemorial. The result is that the order must be set aside. The application may be removed if the financial situation improves."

It would appear from the foregoing case that the utility in this case was doing all it could possibly do to perform its duty to the public. There were no new facts in the case to prove the service was any worse since the Court's decision (119 Atl. Rep., p. 284). The proof is, and the Board so found, that the meters were nearly all installed and the cement mains were being rapidly replaced by new cast iron mains and new supplies of water were being rapidly developed.

At the outset of the hearing in this cause the Board was evidently of the opinion that the service improvements ordered by them should be installed and at the hearing on May 29, 1921, after a lengthy discussion between counsel about service (Case, pp. 57 to 84) the case was adjourned to September, 1921, with the hope that the service would improve (Case, p. 82) and by request of counsel for the utility (Case, pp. 82 to 83).

On September 19, 1921, the hearing was continued and all the parties having learned of the decision of the Supreme Court, above quoted, were of the opinion that the matter of service was no longer in the case (Case, pp 115 to 128) and the hearing was continued under this impression. There is nothing in the instant case to warrant the assumption that the service is not better than it was in 1920, or, in fact, reasonably adequate. The

Board found considerable improvement in the service, for the report shows (Case, p. 21):

> "There are two principal difficulties incident to any very great increase in the pressure at the present time. First, the existence of a considerable amount of old cement mains. These, however, are being replaced with cast iron at a fairly rapid rate and whenever breaks occur, sections of cast iron mains are immediately installed, so that the cement pipe will be entirely replaced within a comparatively short period of time. The second reason for not increasing the pressures at the present time beyond the necessary minimum is the fact that a very large number of the buildings in the eastern part of the city are supplied on a flat or fixture rate basis. There is no incentive to save water and fixtures are allowed to remain defective when they become so and the waste of water has been very great. **The installation of meters, however, has already shown much improvement and has brought about a considerable reduction in the total amount of water required to supply the city.** It was because of the saving brought about by meters that the Board issued an order some time since calling upon the company to completely meter its system. This order, however, was appealed to the court, the company contending that the reason for not installing meters was due to its inability, with the existing rates, to finance the cost of the installations of the meters. The complete metering of this system will, of course, increase the investment of the company, but the resulting saving will be beneficial to the company and favorable to its customers.
>
> **Meters are now being installed at the rate of about 9,000 per year and if continued at this rate the system will be fully metered within a year's time.**
>
> With regard to the sufficiency of supply, plans have been made, some property has been purchased, and some of the construction work completed, looking to a supply from the Raritan River, near Bound Brook. **Testimony submitted is to the effect that the delay in completing the development of the Raritan River supply is largely due to the inability of the company to finance such extensive improve-**

> **ments during a period which the financial market was disturbed by the war-time conditions.** Cost of money has been high, but is now coming down and with some adjustments of the rates charged it ought to be possible, in the comparatively near future, to finance the Raritan River development." (Black face ours.)

The relation of rates to service was considered by the Supreme Court in the case of

> *Public Service Co.* v. *Public Utility Com'rs,* 84 N. J. Law, p. 463,

affirmed after re-argument before this Court in 87 N. J. Law, p. 581.

The Supreme Court opinion makes this comparison in service and rates on p. 471:

> "On the one hand a just and reasonable rate can never exceed, perhaps can rarely equal, the value of the service to the consumer. On the other hand it can never be made by compulsion of public authority so low as to amount to confiscation. A just and reasonable rate must ordinarily fall somewhere between these two extremes, so as to allow both sides to profit by the conduct of the business and the improvements of methods and increase of efficiency.
>
> Justice to the consumer ordinarily would require a rate somewhat less than the full value of the service to him, and justice to the company would ordinarily require a rate above the point at which it would become confiscatory. **To induce the investment and continuance of capital there must be some hope of gain commensurate with that realizable in other business;** the mere assurance that the investment will not be confiscated would not suffice."

and again at p. 473:

> "A just and reasonable rate must allow for possible competition and must be such as will allow the ordinarily well located concern to exist without giving an artificial advantage to the more skillful or better location."

and again at p. 474:

> "A just and reasonable rate, therefore, is necessarily rather a question of business judgment than one of legal formula, and must often be tentative, since the exact result cannot be foretold. * * * That it is not a question of legal formula is shown by the decision that a rate may be reasonable, although it fails to produce an adequate return to the public service company, owing to the fact that business has not developed sufficiently to be remunerative, or to the fact that the plant is on a larger scale than is justified by the present demand. * * * The real test of the justice and reasonableness of an individual rate seems to be that it should be as low as possible and yet sufficient to induce the investment of capital in the business, and its continuance therein. This also is a business question, and depends on the opportunities that may be offered for more profitable investments and the risk involved."

This Court passed upon the question of rates and service in

> *O'Brien* v. *Public Utility Board,* 92 N. J. Law, p. 48, affirmed in 92 N. J. Law, p. 587,

in which opinion the Court stated:

> "The question of the justice and reasonableness of a rate, is a question of inference from facts proven, rather than in itself a matter of proven fact. The question is common in the law. Three examples are enough. A land owner on a running stream may make a reasonable use of the running water. It is for a court or jury, using its best judgment, to decide what is a reasonable use. Our conduct must be that of a reasonably prudent man. What is reasonably prudent conduct is for the jury using its best judgment to decide. At common law and under the act of congress known as the Sherman act, a contract in restraint of trade is valid if the restraint is reasonable, invalid if it is unreasonable. It is for the court or jury as the case may be, to decide what is reasonable or unreasonable in the light of the evidence and the decided cases."

and at p. 52:

> "The act contemplates a regulation of still existing public utilities for the benefit of the public, not their destruction. It was decided more than thirty years ago that the constitutional power was a power to regulate, not a power to destroy. Railroad Commission Cases, 116 U. S. 307, 331."

It was impossible for the company to render the service until it obtained the rate and for the Board to refuse to increase the rate would be like the order (quoting from the same case before the Supreme Court in the year 1921, 119 Atl. Rep., p. 284) "to make bricks without straw."

The appellant has made copious quotations from the opinion of the Court below and the part of the opinion which graphically described what the rate should be, is as follows (Case, p. V):

> "The policy of the law is and should be to aid utilities to properly function and to render adequate service to the public by permitting rates to be charged for the service rendered which will yield an adequate return upon the capital invested, maintain the property and attract capital. The policy should never be one of destruction. O'Brien *v.* Public Utility Board, 92 N. J. L. 44. A starved utility is in no better position to render proper service than a starved horse or a motor car without fuel. We think the evidence amply justified the increase in rates granted."

POINT IV.

The Supreme Court committed no error in affirming the finding of the Board on fair value.

This point was not overlooked by the Supreme Court as contended by the appellant. By turning to the opinion of the Supreme Court we find the following determination (Case, p. VI) beginning with l. 8:

> "The prosecutor also attacks the rate base in several particulars, contending that the Board in its valuation took into consideration matters which

should not have been included and also erred in fixing too high allowances for overhead, etc. There was evidence which justified the results arrived at by the Board and they will not be disturbed in view of the fact that there is evidence which will support the finding of the Board."

In the case of *Smyth* v. *Ames,* 169 U. S. 466, it was held:

> "That the fair value of the property being used for the public convenience there may be considered the value of the original cost of construction; the amount expended in permanent improvements; the amount and market value of its bonds and stock; the present as compared with the original cost of construction; the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses; and are to be given such weight as may be just and right in each case. * * * The company is entitled to ask for a fair return upon the value of that which it employs for the public convenience."

In the case of *San Diego Land & Town Co.* v. *National City,* 174 U. S. 739, we find:

> "The contention of the appellant in the present case is that in ascertaining what are just rates the court should take into consideration the cost of its plant, including interest paid on money borrowed, and reasonably necessary to be used in constructing the same, the annual depreciation of the plant from natural causes resulting from its use and a fair profit to the company over and above such charges for its services in supplying water to consumers, either by way of interest on the money it has expended for the public use or upon some other fair and equitable basis. Undoubtedly all these matters ought to be taken into consideration, and such weight be given to them, when rates are being fixed, as under all the circumstances will be just to the company and to the public. The basis of calculation suggested by the appellant is, however, defective in not requiring the real value of the property and the fair value in themselves of the services rendered to be taken into considera-

tion. What the company is entitled to demand in order that it may have just compensation is a fair return upon the reasonable value of the property at the time it is being used for the public. The property may have cost more than it ought to have cost, and its outstanding bonds for money borrowed and which went into the plant may be in excess of the real value of the property. So that it cannot be said that the amount of such bonds should in every case control the question of rates, although it may be an element in the inquiry as to what is, all the circumstances considered, just both to the company and to the public."

In the case of *San Diego Land & Town Co.* v. *Jasper,* 189 U. S. 439, the Court said:

> "The main object of attack is the valuation of the plant. It is no longer open to dispute that, under the constitution, 'what the company is entitled to demand in order that it may have just compensation, is a fair return upon the reasonable value of the property at the time it is being used for the public' * * * (citation) * * * That is decided and is decided as against the contention that you are to take the actual cost of the plant, plant depreciation, etc., and to allow a fair profit on that footing over and above the expenses * * *. No doubt cost may be considered, and will have more or less importance according to the circumstances."

The opinion in the case of *Stanislaus County* v. *San Joaquin and Kings River Canal and Irrigation Company,* 192 U. S. 201, is to the same effect:

> "In San Diego Land Company *v.* National City, 174 U. S. 739, it was held (follows Smyth *v.* Ames, 169 U. S. 466, 543, 544), that what the company was entitled to demand in order that it might have just compensation was a fair return upon the reasonable value of the property at the time it was being used for the public. That appellant in that case contended that in fixing what were just rates the court should take into consideration the cost of the plant and of its annual operation, the depreciation of the plant, and a fair profit to the com-

> pany above its charges for its services. It was observed by the court that undoubtedly all these matters ought to be taken into consideration and such weight be given to them, when rates are being fixed, as under all the circumstances would be just to the company and to the public. The same principle is reaffirmed in San Diego Land, etc., Company *v.* Jasper, 189 U. S. 439, 442."

In the case of *Simpson* v. *Shepard,* 230 U. S. 352, Mr. Justice Hughes, who wrote the opinion, stated "that the question of fair value is not controlled by artificial rules."

> "The basis of calculation is the 'fair value of the property' used for the convenience of the public. Smyth *v.* Ames, 169 U. S. 546, 42 L. Ed. 849, 18 Sup. Ct. Rep. 418. Or as it was put in San Diego Land & Town Co. *v.* National City, 174 U. S. 757, 43 L. Ed. 1161, 19 Sup. Ct. Rep. 804; 'What the company is entitled to demand in order that it may have just compensation is a fair return upon the reasonable value of the property at the time it is being used for the public.' See also San Diego Land & Town Company *v.* Jasper, *supra;* Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 41, 53 L. Ed., 382, 395, 29 Sup. Ct. Rep. 192, 15 Ann. Cas. 1034."

"Book" or Original Cost.

In the appellant's brief a statement is made that the Board had before it the "book" or "original cost" of the property and reference is made to Case, p. 23. The reference does not bear the contention of the prosecutor. In Case, p. 23, of the report reference is made "on book values corrected." The evidence in the case does not disclose that there was any "book" or "original cost" of the property before the Board in the strict meaning of those terms.

The witness Fuller characterized his valuation as an actual cost valuation (Case, pp. 784-785). He further testified that he took everything from the "books" and when

pressed further on his examination as to how complete the books were he testified (Case, p. 786):

> "A I assume that what was included in the books represented the properties which they had built, except to this extent, that I did deduct something for property which had been abandoned and added to that something for overhead expenses which had been incurred, which I find in many cases are not included to their full extent on the books. This represents what would be my judgment of the costs to the company of building these works."

When the witness Fuller was cross examined as to so-called "original book cost value" he denies having examined the books at all of the company wherein he states that he did not examine the books of the company, but examined the reports of the commission. His testimony in this connection is as follows (Case, p. 859):

> "Q The only examination you made of this company's books was after October 3, 1921? A I have not examined the company's books, I have examined the company's reports to the commission, and information given in the company's exhibit in this case.
>
> Q Did you ever examine any vouchers? A No, sir.
>
> Q What reports to the commission have you examined, what dates? A All of the reports that have been presented from 1911 to 1912, whichever date the first one was put in.
>
> Q For all the companies? A For all the companies; yes, sir.
>
> Q Of course, the company had records before that date, did it not? A I presume they did, sir; yes, sir.
>
> Q You have stated that you took your book costs from the books; when you stated that you meant from the reports to the commission? A I meant from the reports to the commission and the date presented in this case.
>
> Q And not from the actual books themselves? A Not from the actual books; no, sir."

The foregoing testimony does not bear out the contention of the appellant when it alleges that the Board did not take into consideration the "book" or the "original cost of the property." It appears that the Board, in fixing the value, considered the records of the company as well as the testimony of the experts for the company and the municipality. The Board made its findings on valuation in the following language (Case, p. 24):

> "The Board has made a careful study of the testimony with regard to the value of the property and finds, in general, that the land should be taken at the appraised values, without overheads; but that with respect to structures and equipment greater weight should be given to value on a pre-war basis, modified to the extent of allowing a reasonable appreciation due to present-day conditions, subject also to adjustment for depreciation."

And on page 30:

> "The pre-war basis of value new of the property used and useful as developed by the companies' appraiser and checked and examined by the Board's engineer, will be taken as a starting point for the value of the property in existence at December 31, 1918."

As to unit pre-war prices Mr. Fuller, witness for the municipality, and Mr. Hill, for the utility, agreed that at time of valuation unit prices were from 22 per cent. to 48 per cent. higher than pre-war prices (pp. 177, 824, and Exhibit P. 10, p. 1044). The Board did not adopt either one of those unit pre-war prices, as estimated by Hill or Fuller, but allowed 20 per cent. increase, which the Board determined reasonable.

The Piscataway property, referred to in appellant's brief, was considered by the Board in the same manner as all other property and a total fair value thereof was found. It has been decided in the case of *Elizabethtown* v. *Public Utility Comm.*, 111 Atl. 729, that allowance must be made for increased number level of value. Justice Swayze said: "I think it entirely clear that the failure to

allow for prices at the time to which the rates apply, July 1, 1919, was an error." See also *Southwestern Bell Tel. Co.* v. *Houston,* 295 U. S., p. 318.

36-Inch Main.

The appellant contends **for the exclusion from the rate base of the 36-inch cast iron pipe** constructed between Piscataway and Raritan Township. It appears by the testimony (pp. 73 and 870) that this main is in use and that an increase in service in the near future places this item of property in the category of property "used and useful."

The appellant refers to the case of *Long Branch* v. *Tintern Manor Co.*, 70 N. J. Eq., p. 71, as authority in support of the appellant's contention. The Tintern Manor Water case is no authority for the proposition stated. In that case there was plainly and admittedly an over-construction of the water plant. In the instant case, the 36-inch main ~~and stall~~ appears from the testimony to be necessary for present needs as well as future needs and therefore comes within the rule laid down in the case of the *Consolidated Gas Co. of New York* v. *Newton,* 267 Fed., at p. 260. This case was affirmed by the Supreme Court of the United States in 258 U. S., p. 165.

The Appellant's Contention is for a Value Other Than Present Value.

The criticisms of the Board's failure to give more consideration to so-called "book" or "original cost value" and in fact the major criticisms made to the value found by the Board is arguing for a value other than the present value of property being used for public service at the time of the hearing. The different conceptions of the question of value has been quite well settled in the case of the *City of Houston* v. *South Western Bell Telephone,* 259 U. S., p. 378. It appears by that case that theretofore

there were two theories of regulation that had been struggling for supremacy. One that the utility ought to base its rates on the present value of the property and the other on the basis of investment. Beginning with the case of *Smyth* v. *Ames* down to the present time, the Supreme Court of the United States has adhered to the present value theory. In the South Western Bell Telephone case the Court was asked to reverse itself in favor of the investment theory; thus the issue of present value and investment value was squarely presented to the Court and the Court decided that ~~the~~ present value was the value to be taken. Little, if any, assistance can therefore be obtained from "book" value or "original cost" or investment value or from the so-called split inventory basis, that is applying to pre-war prices to the property installed before the war and investment cost ~~in~~ *to* property installed since. In the consideration of the instant case it is well to consider all of these elements in order to arrive at a present fair value and that the Board did and the determination was rightfully affirmed by the Court below.

Easements.

Another item of the valuation criticized by the appellant was that of the rights of way for the pipe lines. The Board, in its report (p. 26), stated that the appraisal made by the companies, according to their witnesses, assumed that the rights of way in question were owned by the companies in fee when in fact in several cases the company did not own the right of way in fee, but merely an easement over the land. The Board found further that it was a difficult matter to determine, under the condition that the case was submitted, the value of the rights of way either in fee or by way of easement. Under these conditions the Board held (p. 26, l. 23):

> "The actual cost paid for these rights by the company, with proper allowance for appreciation in value, would be a better basis for determining

the value at this time if all of this information was available in detail."

It appeared in the testimony (p. 562) that it was the experience of the appraiser that the value of this easement would cost about the same whether it was an easement enjoyed in the land or the ownership of a sufficient part of the fee in which to lay the pipe line; that the owner of the property would sell a fee for the same price as he would sell an easement if he would sell a fee at all. The Board did not take the values fixed by Mr. Lyman, but rather the values fixed by Mr. Townley and Mr. Fedor (Case, pp. 721, 754, 755). Both of these men were expert appraisers on this class of property (Case, pp. 721 to 756).

Accrued Depreciation.

With respect to the amount **deducted for accrued depreciation** by the Board, the prosecutor claims that the deduction was insufficient in amount and that proper recognition was not given to "functional depreciation" and "obsolescence." The exact percentage or amount of accrued depreciation in any property is an item that cannot be accurately measured. It is largely a matter of judgment. With respect to functional depreciation and obsolescence, it becomes almost a matter of speculation.

That all the evidence submitted with respect to accrued depreciation was carefully weighed by the Board is indicated by the discussion of this item in the Board's decision (Case, p. 25).

The experts produced by the utility and also the city are far apart on the question of "accrued depreciation." Mr. Fuller, in Exhibit R. 5, depreciated different items from 50 per cent. to 100 per cent. Mr. Hill, the witness for the utility, took into consideration the actual condition of all the system of the company and estimated his depreciation thereon. The Board carefully considered the testimony of all the witnesses as hereinbefore stated.

Intangible Elements.

The appellant further charges that **the Board erred in making allowances in the rate base for intangible elements of value on the ground** that there was not sufficient evidence to support the finding of the Board. What the Board did in this connection may be found in its report (p. 31), wherein the following language appears:

> "* * * to cover all allowances for intangible elements we are of the opinion that an allowance of 10 per cent., which is practically the basis, although the amount claimed by the company is ample and sufficient."

This percentage resulted in an allowance of $412,998, which is 10 per cent. of the present value on a post-war basis of all properties "used and useful." This tangible element of valuation is constantly before the courts and it is well-settled law that there is properly included for this item a sum in addition to the value of the plant as a whole which intangible value is attached to it because it is in useful and successful operation and earning a return. This was the determination in the case of *Knoxville* v. *Knoxville Water Co.*, 212 U. S. 1.

The Court of Errors in this state held:

> "That there is an element of value in an assembled and established plant doing business and earning money over one not thus advanced is self evident."
>
> *Public Service Gas Co.* v. *Board of Public Utility Commissioners*, 84 N. J. L. 436, affirmed, 87 N. J. L. 581.
>
> See also *Denver* v. *Denver Water Co.*, 246 U. S. 178.

In the case of *Public Service Gas Company* v. *Board, supra,* the Court sustained a going concern value of 27.9 per cent. In the brief of the utility reference is made to a large number of "water cases" where percentages in excess of 10 per cent. were allowed for going concern value. The Board's conclusion of 10 per cent. therefore was not unreasonable in view of the allowances hereto-

fore sustained by the courts of this state as well as the United States.

Classes of Rates.

A further point is made in the appellant's brief that the Board did not make a reasonable determination in fixing the different classes of rates to be paid by consumers. The service rendered by a water company is of two general classes, (1) service to private consumers, and (2) service to municipalities. A very considerable portion of the investment of a water company is necessary for fire protection. To have efficient fire protection there must be sufficient mains and hydrants in every part of the city, at all times properly furnished with water to give an instant and effective service whenever required. To maintain this instant and effective service the utility is required to keep its pumps, reservoirs and other apparatus for fire supplies in full and sufficient capacity. All of these requirements add to the cost of furnishing water above the amount that is served to the private consumers. The apportionment of the cost between the private consumers and the municipalities, therefore, not only depends upon the testimony submitted before the Board, but also the experience gained by the Board in other cases in the light of similar testimony. The apportionment of the cost in the instant case between the private consumers and the municipality is along the lines laid down by the Board in the Hackensack Water Company case, which was before this Court and reported in 95 N. J. L. 295.

As heretofore stated in this brief and as appears in the report of the Board, the private consumers of the utility were nearly if not all metered and according to the testimony before the Board would within a short time be completely metered. The Board therefore was justified in making a classification that was found by experi-

ence to be just and reasonable in the instant case as well as in cases of a like character.

It is respectfully submitted that the judgment of the Court below be affirmed.

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