THE PENNSYLVANIA CORPORATION REPORTER

Containing

OPINIONS, GENERAL ORDERS, ADMINISTRATIVE RULINGS, REPORTS, CIRCULARS, RULES OF PRACTICE, ETC., OF

THE PUBLIC SERVICE COMMISSION OF PENNSYLVANIA

And

OPINIONS OF THE COUNTY COURTS THROUGHOUT THE COMMONWEALTH AND OF THE ATTORNEY GENERAL INVOLVING THE LAW OF PRIVATE CORPORATIONS, INCLUDING CORPORATION TAX CASES AND APPEALS FROM THE PUBLIC SERVICE COMMISSON

Also

ANNOTATIONS TO THE PUBLIC SERVICE COMPANY LAW

With

TABLES OF CITATIONS OF VARIOUS SECTIONS OF THE LAW AND OF THE OPINIONS OF THE COMMISSION

Reported and Edited by
GEO. ROSS HULL
Of the Dauphin County Bar

Volume VI

JANUARY 1918—DECEMBER 1918

THE PENNSYLVANIA CORPORATION REPORTER
HARRISBURG, PA.

from the quarry. We have had this question before us in several recent cases, among which is that of Commonwealth v. The John T. Dyer Quarry Co., 250 Pa. 589. The principle decided in that case, in our opinion, controls this case. The process employed by this defendant is practically the same as that employed by the defendant in the case just referred to. We therefore conclude that the settlement made by the Commonwealth was properly made and that the defendant company is indebted to the Commonwealth in the amount of that settlement.

We therefore find that the defendant company is indebted to the Commonwealth for the capital stock tax for the year

1913,	$300 00
Interest September 15, 1914, to May 28, 1918,	66 60
Total,	$366 60
Attorney General's commission, 5 per cent.,	18 33
Total now due the Commonwealth,	$384 93

Wherefore, we direct that judgment be now entered in favor of the Commonwealth and against the defendant company for the sum of $384.93, unless exceptions be filed within the time limited by law.

PUBLIC SERVICE COMMISSION

M. CALLAGHAN, ET AL., *v.* SPRINGFIELD CONSOLIDATED WATER CO.

Rates—Water companies—Valuation for rate-making purposes.

When substantially the same questions are involved in several complaints filed against a respondent company, the Commission will consider them in one proceeding.

Where a large number of complaints, comprising among them the principal municipalities served, are filed, the Commission will conduct a thorough investigation to arrive at just and reasonable rates which shall be charged, and what extensions and improvements shall be made to insure efficient service.

The Commission will consider generally the territory to be served, its industrial activities, probable increase of population, and kindred aspects in arriving at a conclusion in the just solution of complaints.

In arriving at a valuation as a basis for return the evidence and weight of all elements bearing on fair value, including original cost of construc-

tion, reproduction costs, the amount of its bonds and stocks, probable earning capacity, development and going concern value and a proper allowance for working capital, was considered, to which was added the estimated cost of improvements ordered to be made during current year. The schedule of rates should provide revenue sufficient to cover fair return plus operating expenses and depreciation.

Schedule of rates should be based on the cost of the service rendered; fire protection and domestic or industrial service are essentially different, and this difference should be recognized in preparing rates for service.

Measured or meter service is just to all consumers and is recommended.

COMPLAINT DOCKET NOS. 19, 170, 195, 196, 251, 1182, 1192.

Report and Order of the Commission.

Wm. Righter Fisher, for Central Water Rates Committee.

Henry M. Tracy, for residents of Borough of Conshohocken and vicinity.

A. B. Geary, for Boroughs of Darby, Eddystone, Glenolden, and Township of Tinicum.

Frank M. Rhoades and *H. M. Lutz,* for Borough of Clifton Heights.

Benj. J. Ludlow, for residents of Ardmore.

Howard C. Fritch, for residents of Narberth.

J. Chester Wilson, for Borough of Aldan.

Montgomery Evans, Wm. I. Schaffer, and *Joseph T. Bunting,* for Springfield Consolidated Water Co.

BY THE COMMISSION:

In pursuance of the order heretofore entered in these cases the Commission herewith recites the proceedings in detail and sets forth its conclusions and findings from the evidence submitted.

At various times between the years 1913 and 1916 complaints were filed against the Springfield Consolidated Water Company by the residents of the Borough of Conshohocken, by the Boroughs of Clifton Heights, Darby, Eddystone, Glenolden, Aldan, and Morton, and the Township of Tinicum and by individual consumers in Narberth and Ardmore; alleging that its rates were unjust, unreasonable, excessive and discriminatory; that the company refused to make extension of its mains, and that the service

rendered was inefficient. The company denied all of these allegations.

Owing to the large number of complaints, comprising among them the principal municipalities served by the respondent, the Commission considered it advisable to conduct a thorough investigation so as to determine the reasonable rates which the company should charge and what extensions and improvements should be made to render efficient service. For this purpose, on May 21, 1914, the Commission ordered all the complainants to be consolidated and hearings to be held. Subsequently, the complaints of J. Marechal Brown and Arthur W. McClellan filed in 1916 were merged with the older cases. Hearings were held in Harrisburg on July 7, 1914, January 5th and 6th, and April 6, 1915, and November 12, 1917; in Philadelphia, on March 9, 1915, February 9th, March 29th, and October 17, 1917. At these hearings the result of the Commission's investigation by its Bureau of Engineering and Bureau of Accounts and Statistics was offered in evidence.

GENERAL CONDITIONS.

Charters and Franchises.

Springfield Consolidated Water Company — The Springfield Consolidated Water Company is the new name assumed for the corporation previously known as the Rydal Water Company, which latter company was chartered January 27, 1905, to supply water to the public in Abington Township, Montgomery County. On September 28, 1908, it leased for a period of ninety-nine years, the Springfield Water Company, North Springfield Water Company, Conshohocken Gas & Water Company, and Eddystone Water Company, and on October 15, 1909, the Rockledge Water Company. Thus it is seen that the respondent controls the operations, by lease, of five water companies, besides the operation incident to its own property.

Springfield Water Company—The Springfield Water Company was chartered January 4, 1886, for Springfield Township, Delaware County. Out of this township, Swarthmore Borough was incorporated in 1893, and Morton Borough in 1898. Through the purchase of the franchises and property of fourteen other

companies, nine of which had but a charter and franchise, as shown in the following table, it now legally operates within a territory comprising many boroughs and townships in Delaware County and a small portion of Montgomery County, under the direction and control of the respondent company.

Name of Company and Charter Territory.	Date of issuance of letters patent.	Date of sale to Springfield Water Co.
1. Clifton Heights Water Co. of Clifton Heights, Delaware County,	Mar. 24, 1886	Oct. 14, 1896
2. Ridley Park Cold Springs Water Co. of Ridley Park Borough,	June 20, 1889	June 21, 1892
3. Lansdowne Water Co. of Lansdowne Borough, Delaware County,	July 11, 1890	June 6, 1899
4. Citizens Water Co. of Darby Borough, Delaware County,*	Mar. 7, 1892	June 15, 1892
5. Consumers Water Co. of Upper Darby, Delaware County,*	Mar. 7, 1892	June 15, 1892
6. Penn Water Company of Sharon Hill Borough, Delaware County,*	Mar. 7, 1892	June 15, 1892
7. People's Water Company of Darby Township, Delaware County,*	Mar. 7, 1892	June 15, 1892
8. Highland Park Water Co. of Ridley Township, Delaware County,*	Mar. 7, 1892	June 15, 1892
9. Tinicum Water Company of Tinicum Township, Delaware County,*	Mar. 7, 1892	June 15, 1892
10. Bryn Mawr Water Company of Lower Merion Twp., Montgomery County,	April 6, 1892	Aug. 26, 1896
11. Collingdale Water Company of Collingdale Borough, Delaware County,*	Dec. 22, 1892	Oct. 18, 1900
12. Consumers Water Co. of Marple Township, Delaware County,*	Aug. 26, 1901	Oct. 30, 1901
13. Citizens Water Company of Haverford Township, Delaware County,*	Aug. 26, 1901	Oct. 30, 1901
14. People's Water Company of Haverford Township, Delaware County,	Aug. 6, 1901	Jan. 12, 1904

*These companies had no plant, possessing only a charter and franchise.

North Springfield Water Company—The North Springfield Water Company was chartered June 20, 1898, for Springfield Township, Montgomery County. By purchase and consolidation of the franchises and property of fifteen other companies, eleven of which had but a charter and franchise, as shown in the following table, it now operates in portions of Montgomery, Philadelphia, Chester, and Delaware Counties, in that territory adjacent to and north of the City of Philadelphia from Bucks County on

the east to beyond the Schuylkill river on the west, a distance of about twenty-five miles, and along the main line of the Pennsylvania Railroad as far west as Glen Loch, in East Whiteland Township, Chester County, through the lease and under the direction and control of the respondent.

Name of Company and Charter Territory.	Date of issuance of letters patent.	Date of sale to North Springfield Water Co.
1. Wayne Water Works Co. of Wayne Village, Radnor Twp., Delaware County,	Nov. 17, 1891	Jan. 12, 1904
2. Oak Lane Water Co. of Cheltenham Twp., Montgomery County,	June 12, 1893	Oct. 27, 1899
3. Berwyn Water Co. of Easttown Twp., Chester County,	July 23, 1895	Oct. 9, 1899
4. East Whiteland Water Company of East Whiteland Twp., Chester County,*	July 23, 1895	July 25, 1895
5. Willistown Water Co. of Willistown Twp., Chester County,*	July 23, 1895	July 25, 1895
6. Villanova Water Company of Radnor Twp., Delaware County,*	July 23, 1895	July 25, 1895
7. Tredyffrin Water Co. of Tredyffrin Twp., Chester County,*	July 23, 1895	July 25, 1895
8. Schuylkill Twp. Water Co. of Schuylkill Twp., Chester County,*	June 20, 1898	June 24, 1898
9. Glenside Water Co. of Glenside Village, Montgomery County,	July 7, 1898	July 20, 1899
10. Peoples Water Co. of Abington Twp., Montgomery County,*	June 20, 1898	June 24, 1898
11. Upper Dublin Water Co. of Upper Dublin Twp., Montgomery County,*	June 20, 1898	June 24, 1898
12. Moreland Water Company of Moreland Twp., Montgomery County,*	June 20, 1898	June 24, 1898
13. Dewey Water Company of Upper Merion Twp., Montgomery County,*	June 20, 1898	June 24, 1898
14. Citizens Water Company of Whitemarsh Twp., Montgomery County,*	June 20, 1898	June 24, 1898
15. Consumers Water Company of Plymouth Twp., Montgomery County,*	June 20, 1898	June 24, 1898

*These companies had no plant, possessing only a charter and franchise.

Conshohocken Gas & Water Company—The Conshohocken Gas & Water Company was incorporated under a special Act of Assembly approved May 12, 1871, the date of incorporation being June 18, 1872, for the Borough of Conshohocken, Montgomery County. This borough is a manufacturing community and is quite thickly populated.

Eddystone Water Company—The Eddystone Water Company

was incorproated December 22, 1892, to supply water to the public in Eddystone Borough, Delaware County. It received its supply from the Springfield Water Company. It is in this municipality that the Baldwin Locomotive Works and large munition plants are located. The community is an industrial one. Beyond it to the east, along the Delaware river, large industries are being erected, and this portion of Delaware County is rapidly changing into a thickly built-up manufacturing and residential section.

Rockledge Water Company—The Rockledge Water Company was incorporated September 1, 1909, for Rockledge Borough, Montgomery County. It receives its supply from the North Springfield Water Company.

CAPITALIZATION.

The capital stock outstanding of the Springfield Consolidated Water Company and its leased companies on December 21, 1914, totalled $5,100,000, which is made up as follows:

Name of Company.	Stock Outstanding.
Springfield Consolidated Water Company,	$2,500,000
Springfield Water Company,	1,500,000
North Springfield Water Company,	1,000,000
Conshohocken Gas and Water Company,	75,000
Eddystone Water Company,	20,000
Rockledge Water Company,	25,000
Total,	$5,100,000

On December 31, 1914, there was a floating indebtedness, consisting of notes, of $100,000.

There were outstanding on December 31, 1914, bonds of the Springfield Consolidated Water Company and leased companies to the amount of $9,360,100, made up as follows:

Name of Company.	Bonds.	Amount Outstanding.
Springfield Consolidated Water Co.,	1st 5's	$3,543,100
Springfield,	1st 6's	413,000
Springfield (Consolidated),	1st 5's	2,278,000
Bryn Mawr,	1st 6's	185,000
Eddystone,	1st 6's	29,000
Lansdowne,	1st 4's	12,000
North Springfield,	1st 5's	2,000,000
Berwyn,	1st 6's	500,000
Oak Lane,	1st 6's	150,000
Wayne Water Works,	1st 4½'s	150,000
Conshohocken Gas and Water,	1st 4's	100,000
Total,		$9,360,100

The stocks and bonds were issued either at the time of the incorporation or in effecting the purchases, mergers and consolidations and in the payment of contracts for the construction of the plant.

Territory Served by Respondent.

The territory served by the respondent comprises parts of five counties, namely, Delaware, Chester, Montgomery, Bucks, and Philadelphia, and practically surrounds the City of Philadelphia on land.

In this territory the Boroughs of Bridgeport, West Conshohocken, Jenkintown, and Malvern have independent water supplies. Testimony was offered showing that the last three mentioned boroughs are almost certain at no very remote date to seek a supply from the respondent company, and that ultimately Bridgeport may be absorbed into respondent's system. Including these four municipalities, there was a resident population of 161,000 in the territory in 1915.

Testimony was offered to show that the Port of Philadelphia which includes Delaware County, is the natural and the economic outlet for over-sea transportation of the products of Pennsylvania's multifarious industries and resources. To develop this business, the City of Philadelphia, the railroad companies, and the State of Pennsylvania have been coöperating for several years in executing plans for the utilization of the Delaware river and the Schuylkill river fronts as a terminal for general commercial pur-

poses. Municipal piers and docks and adequate railroad terminals are being erected, a belt line railroad in South Philadelphia is being constructed, storage warehouses and new factory sites are being provided and an entirely new lay-out of public highways and traffic facilities is being constructed; all comprising a most extensive, complete, and modern steamship and railroad terminal equal to any in the world. In addition, the city, State, and Federal improvement of the rivers and harbor lend themselves to the demand of the times, incident to commerce, trade and manufacture after the war.

Already within the respondent's territory in Delaware County startling developments have occurred. New industrial activities in connection with shipbuilding, munition plants and other manufactures have caused an influx of thousands of workers and their families, aggregating about 50,000 people.

The Commission's chief engineer placed in evidence his forecast of population growth, showing that under normal conditions, within forty years, which is a reasonable period to provide for when sources of public water supply are under consideration, that over 500,000 people may reside in the territory supplied by the Springfield Consolidated Water Company; but that under the abnormal conditions now prevailing with accompanying results lasting after the war, it is well within the bounds of possibility that 500,000 consumers may be required to be supplied with water in respondent's territory within thirty years.

Facilities of Respondent.

Sources of Supply—The Springfield Water Company obtains its source of supply from Crum creek in Springfield Township, Delaware County. The available storage at the intake dam is negligible. The minimum daily yield cannot be counted on for more than 2,400,000 gallons during a drought. Above the intake the watershed has an area of twenty-nine square miles, on which there is a resident population of 3,463, including nearly 500 residents of the Borough of Malvern and the village of Paoli.

The North Springfield Water Company obtains its source of supply from Pickering creek, in Schuylkill Township, Chester County. Here also the available storage at the intake dam is negligible. The minimum daily yield of the creek cannot be counted

on for more than 3,200,000 gallons during a drought. Above the intake the watershed has an area of thirty-eight square miles on which there is a resident population of 2,915, including a number of small villages.

The Springfield Consolidated Water Company obtains its supply for the territory north of Philadelphia and east of the Schuylkill river from the Neshaminy creek, in Middletown Township, Bucks County. The available storage at the intake dam is negligible. The minimum daily yield from the flow of this stream in the driest weather is over 10,000,000 gallons. Above the intake the watershed has an area of 214 square miles, on which there is a resident population of 23,000, including about 9,500 in Doylestown, Newton, and Hatfield Boroughs, and parts of Langhorne and Lansdale Boroughs.

Whatever the sources of supply of the constituent companies primarily, they have all been abandoned, and the three above described sources are the ones now relied upon by the respondent. The watersheds have been patroled by the State Department of Health and by agents of the respondent company, and no sewage may be legally discharged into the stream; but the drainage areas being largely used for agricultural purposes, there is a natural drainage pollution which makes necessary the filtering and purification of the water in order to protect the health of the people reliant upon these sources for their domestic consumption.

Pumping Stations and Reservoirs—At the Crum creek pumping station there is a sedimentation basin of 10,000,000 gallons capacity, town service pumping engines aggregating 10,000,000 gallons daily capacity though never operated simultaneously, and filters having a daily capacity of 5,500,000 gallons through which all water is pumped. In this system receiving Crum creek water is the Marple Hill reservoir in Springfield Township, Delaware County, capacity 2,000,000 gallons; the Swarthmore standpipe in Swarthmore Borough, capacity 200,000 gallons; the Secane reservoir also in Springfield Township, capacity 4,000,000 gallons; the Newton Square reservoir in Marple Township, Delaware County, capacity 4,000,000; and the Overbrook reservoir in Lower Merion Township, Montgomery County, capacity 3,000,000 gallons. At the latter reservoir on Haverford road, there is an auxiliary pumping station wherein are installed two small engines.

About 200,000 gallons each twenty-four hours are raised from the reservoir and pumped to the Ardmore standpipe, thus reinforcing the local supply. The Ardmore and Bryn Mawr standpipe are in Lower Merion Township, and each have a capacity of 472,000 gallons. The force and supply mains connecting the reservoirs, standpipes, and pumping stations range from 8" to 16" in diameter.

At the Pickering creek pumping station there is a sedimentation basin of 10,000,000 gallons capacity, pumping engines aggregating 5,000,000 gallons capacity, daily, a filter capacity of 5,500,000 gallons daily, and a clear water basin having a capacity of 1,153,000 gallons when full. In this system receiving Pickering creek water are the Diamond Rock reservoir in Tredyffrin Township, Chester County, capacity 1,000,000 gallons; the Green Tree reservoir, near Malvern Borough, in Willistown Township, Chester County, capacity 44,000 gallons; Valley Forge reservoir, also in Tredyffrin Township, capacity 2,000,000 gallons; Devon reservoir in Easttown Township, Chester County, capacity 4,000,000 gallons; and Wayne reservoir in Radnor Township, Delaware County, capacity 1,572,000 gallons. The force and supply mains connecting these reservoirs and the pumping station range from 12" to 16" in diameter.

At the Neshaminy creek pumping station there is a sedimentation basin of 4,000,000 gallons capacity, pumping engines aggregating 4,000,000 gallons capacity daily, and a filter layout with the capacity of 2,700,000 gallons daily. In the system receiving the Neshaminy creek water are the twin hillside standpipes in Abington Township, Montgomery County, each having a capacity of 938,000 gallons; the twin Wyndmore or Chestnut Hill standpipes, each having a capacity of 575,000 gallons, and located in Springfield Township, Montgomery County; Oak Lane standpipe in the village of Melrose, in Cheltenham Township, Montgomery County, capacity 370,000 gallons, and the Conshohocken standpipe located in Whitemarsh Township, Montgomery County, with a capacity of 432,000 gallons. The force and supply mains connecting these standpipes and the pumping station ranges from 8" to 20" in diameter.

Distribution of Water—The geography, topography, and available water supply have naturally divided the territory supplied by the Springfield Consolidated Water Company into three main parts as follows:

First—The Springfield district, including the Springfield and Eddystone operating divisions lying adjacent to the Crum creek supply and principally at an elevation of less than 300 feet above sea level.

Second—The Berwyn-Bryn Mawr district, comprising the Berwyn-Bryn Mawr operating division, lying along the main line of the Pennsylvania Railroad Company and adjacent to the Pickering creek supply, and mostly at an elevation of between 300 and 500 feet above sea level.

Third—The Oak Lane-Conshohocken district, comprising the Oak Lane and Conshohocken operating divisions lying east of the Schuylkill river and adjacent to the Neshaminy creek supplies, and for the most part between the elevations of 200 and 400 feet above sea level.

These three districts differ also with respect to density of population and character of water consumption.

The average monthly pumpage for five years at the three main pumping stations, expressed in million gallons per daily averages, is shown in the following table:

Station.	1912	1913	1914	1915	1916
Crum Creek,	3.80	3.82	3.99	4.24	4.20
Pickering Creek,	2.34	2.49	2.94	3.20	3.48
Neshaminy Creek,	1.72	1.77	1.67	1.67	1.74
Total, average,	7.86	8.08	8.60	9.11	9.42
Total, maximum,	8.52	9.02	9.98	10.16	10.60

This water is pumped through force and supply mains and distributing pipes totaling on December 31, 1914, 588 miles along which were erected 1,155 public fire hydrants. Not all the water pumped is delivered to the consumers because of pump slippage, leakage in the distribution pipes and wastage of water, which losses range from 34 to 44% of the total pumpage. Taking no account of those losses, the distribution of the water pumped as shown in the above table, for the same five years by operating divisions is as shown in the following table:

DISTRIBUTION OF DAILY PUMPAGE IN MILLION GALLONS.

Operating Division.	1912	1913	1914	1915	1916
Springfield and Eddystone (Crum Creek water),	2.48	2.73	2.72	2.82	3.30
Berwyn—Bryn Mawr (Crum and Pickering water),	3.66	3.58	4.20	4.62	4.39
Oak Lane and Conshohocken (Neshaminy Creek water),	1.72	1.77	1.67	1.67	1.73
Total, average,	7.86	8.08	8.59	9.11	9.42

In respondent's system on December 31, 1914, there was a total of 22,077 consumers, of which 15,180 purchased water by meter, and 6,897 consumers had no meter.

Service—The service rendered by respondent to the public in certain portions of the Springfield division, the Berwyn and Bryn Mawr divisions, and the Oak Lane division, is unsatisfactory because of inadequate facilities.

The industrial development now going on with tremendous strides along the Delaware river in the Springfield and Eddystone divisions, between Chester and Philadelphia, taxes to their fullest capacity, the supply of water, the pumping facilities, and the distribution system of the respondent. At the present moment it is impossible to maintain a full level at the Secane reservoir owing to inadequate capacity of the pipe lines between this reservoir and Marple Hill reservoir. Especially in the district along the Delaware river is the service increasingly inadequate because of small pipe lines. The pumping facilities and some of the appurtenances of the Crum creek pumping station outfit are inadequate. Crum creek, during the season of 1916, which was not a dry year, yielded barely enough flow to supply the needs of the district.

In the upper part of the Berwyn-Bryn Mawr division the service is fairly good, but it is very unsatisfactory in the Cynwyd district due to the inadequacy of the distribution pipes. At Cynwyd a considerable portion of the territory occupies high land. When the lower lying districts draw water at the maximum, the pressure upon the higher ground is very materially reduced, thus impairing domestic service and especially the fire protection service. Under ordinary conditions of operation the Devon reservoir should be supplied from Pickering cheek station, but the pumping facilities

at this station are inadequate, and since the force main leading therefrom can deliver but a limited quantity of Pickering creek water into the system, the deficiency has to be made up from Crum creek. The existing pumping machinery at Pickering creek station is taxed far beyond its safe limit.

In the Oak Lane division some of the feed mains are too small. The Melrose standpipe has practically reached the end of its service life.

EXISTING RATE SCHEDULE.

The schedule of rates now in force against which complaint has been made is embodied in the application blank for water which must be used by each prospective consumer. In addition, the respondent has separate schedules for water supplied to builders and contractors and for retail bottling trade and for churches, municipal buildings, fire protection, etc. The present schedule of rates is as follows:

EXISTING SCHEDULE.

No water will be supplied to any consumer for less than $18.00 per year.

DWELLINGS.

One faucet, without other supplies,	$18 00
Hydrant in yard, household uses, when no other outlets are taken,	18 00
Water in kitchen sink, hot and cold, or either,	10 00
Each additional sink,	2 50
Pantry sink,	1 50
Slop sink,	2 50
Hydrant in yard in addition to water in kitchen,	5 00
Bath tubs, each,	4 00
Water closets, self-closing, each,	4 00
Stationary wash tubs, each	1 50
Stationary wash stands, each,	1 50
Urinals, self-closing, each,	2 50
Bidet, or foot bath,	1 50
Shower bath,	2 50
Heaters,	1 00
Pave wash or hose attachment, with other supplies,	8 00
Pave wash or hose attachment, when taken without any other supply,	18 00
Additional hose attachment, each,	4 00
Use of hose at inside kitchen sink only,	5 00
Lawn sprinklers, revolving or automatic, for each 100-foot front or less, in addition to hose attachment,	6 00

PRIVATE STABLES.

Private stables, 1 faucet or hydrant inside or outside for stable purposes only, 1 horse and 1 cow and carriage washing, with household supplies, (If outside of stable, must be a non-freezing faucet or hydrant.)	5 00
Additional faucet or hydrant inside or outside of stable for stable purposes only,	5 00
Faucet or hydrant with hose screw inside or outside of stable, when used for sprinkling or for any purpose other than stable use, where there is no hose attachment or pave wash at house,	18 00
Additional faucet or hydrant with hose screw, inside or outside of stable when used for sprinkling or for any purpose other than for stable use,	9 00
Sinks for stable purposes,	2 50
Sinks for stable purposes with hose screw,	7 50

Each additional horse or cow,	1 50
Automobiles, each,	2 50
Heaters,	1 00
Private stables, 1 faucet or hydrant, when not taken with household supplies, or when on separate tap,	18 00

PRIVATE GARAGE.

Private garages—1 faucet without household supplies (one car only),	18 00
Each additional car,	2 50
Private garages—1 faucet with household supplies (1 car only),	5 00
Each additional car,	2 50
Additional faucet or hydrant inside or outside of garage for garage purposes only,	5 00
Faucet or hydrant with hose screw, inside or outside of garage, when used for any purpose other than garage use, where there is no hose attachment or pave wash at house,	13 00
Additional faucet or hydrant with hose screw, inside or outside of garage when used for sprinkling, or for any purpose other than for garage use,	9 00
Sinks for garage purposes,	2 50
Sinks for garage purposes with hose screw,	7 50
Heaters,	1 00

STORES, OFFICES AND SHOPS.

Drug stores, barber shops, bakeries, restaurants, ice cream saloons, confectionery stores.
Rates for the above will be as follows:

When not taken with household supplies—	
First faucet,	18 00
Each additional faucet,	2 50
When taken with household supplies—	
First faucet,	5 00
Each additional faucet,	2 50

Printing offices, blacksmith shops, carriage and wheelwright shops.
Rates for the above will be as follows:

First faucet,	18 00
Each additional faucet,	2 50

Rates for faucets in stores not enumerated in the above schedule.

When not taken with household supplies—	
First faucet,	18 00
Each additional faucet,	2 50
When taken with household supplies—	
Each faucet,	2 50
Hose attachments for stores, offices and shops only, when not taken with other supplies,	18 00
When taken with other store supplies,	5 00
When taken with household supplies,	8 00

FOUNTAINS.

To be supplied by meter only.

HOTELS AND BOARDING HOUSES.

By meter only.

SCHOOLS.

By meter only.

MISCELLANEOUS.

Steam engines, meter rates.
Slaughter houses, meter rates.
Green houses, meter rates.
Laundries, meter rates.
Livery stables, meter rates.
Public garages, meter rates.

METER RATES.

Annual Minimum Charge.	Rate per 1,000 Gallons.	Yearly Consumption Allowed.
$18 00	40 cents	45,000 gallons
25 00	35 cents	71,428 gallons
50 00	30 cents	166,666 gallons
100 00	25 cents	400,000 gallons
200 00	20 cents	1,000,000 gallons
600 00	15 cents	4,000,000 gallons
1,000 00	12½ cents	8,000,000 gallons

BUILDING PURPOSES.

Frame dwelling houses, 8 rooms or less,	$5 00
Frame dwelling houses, 9 to 14 rooms,	8 00
Brick, stone, pebble-dash dwelling houses—	
7 rooms or less,	7 00
8 rooms,	9 00
9 to 14 rooms,	12 00
Part frame and part brick, stone, pebble-dash or rough cast—	
8 rooms or less,	7 00
9 to 14 rooms,	10 00

All rooms over 14 will be charged for at the rate of $1.00 for each room.
Concrete stable or garage, 20'x15' in size or less, ... 5 00
Concrete stable or garage, over 20'x15' in size, meter rates.
Concrete buildings other than those mentioned in the schedule, meter rates.
For halls, churches, schools, stables, etc., the following rates will be charged:
For stone work, 2 cents per perch.
For brick work, 5 cents per 1,000 bricks.
For plastering work, 5 cents per bushel of lime.
When water is supplied by meter for building or contractor's purpose, a deposit of $25.00 is required to cover the cost of repairs of any damage to the meter or the loss of same, and to cover cost of permit fee, and the cost of placing street in repair after completion of work, and in addition for all water supplied. The said deposit will be refunded when all of the foregoing conditions have been complied with.

Note.—The minimum fixture rate of $18.00 per annum entitles the use of such fixtures at the above rates as will amount to that sum.

SPRINGFIELD CONSOLIDATED WATER COMPANY.

P. S. C. SUPPLEMENT NO. 1
TO
SCHEDULE OF RATES NO. 1.

Filed Nov. 5, 1914.

RATES FOR WATER SUPPLIED TO BUILDERS AND CONTRACTORS.

Builders and contractors may secure water for building and contractors' purposes at the following meter rates:

40c per 1,000 gallons	$12 00	minimum charge
35c per 1,000 gallons	25 00	minimum charge
30c per 1,000 gallons	50 00	minimum charge
25c per 1,000 gallons	100 00	minimum charge
20c per 1,000 gallons	200 00	minimum charge

The minimum charge to be paid in advance, and the contract terminates at the end of one year from the date the water is turned on. If at the expiration of the year a further supply of water is needed, the builder or contractor shall then sign a new contract, paying the minimum charge in advance.

SPRINGFIELD CONSOLIDATED WATER COMPANY.

SUPPLEMENT NO. 2
TO
P. S. C. NO. 1.

The schedule of rates, herewith, applies to the entire territory served by the Springfield Consolidated Water Company, lessee of Springfield Water Company, North Springfield Water Company, Conshohocken Gas and Water Company, Eddystone Water Company and Rockledge Water Company, and is not embodied in the regular form of application, but may be had by any person under similar circumstances and conditions upon proper application.

Water taken from the mains of this company for the sole and exclusive purpose of retailing in bottles without the territory served by this company.

A minimum charge of $500.00 is made for which the company furnished 365,000 gallons per annum, all water used in excess of this amount will be charged for at the rate of fifty (50c) cents per 1,000 gallons.

The said minimum of five hundred ($500.00) dollars is payable at the rate of forty-one and 67-100 ($41.67) dollars in advance on the first day of each and every month.

The following rates are not embodied in the regular form of application, but apply to the entire territory served and may be had by any consumer upon proper application.

$600 00 yearly minimum charge 15c per 1,000 gallons
1,000 00 yearly minimum charge 12½c per 1,000 gallons

To Churches, Fire Houses, Borough and Township Halls, and School Gardens—
50,000 gals. of water is furnished each year free of charge to each connection under the above classification. All water used in excess of this free allowance is charged for at the regular meter rates.

To Public Drinking Fountains or Water Troughs—
25,000 gallons of water is furnished each year free of charge to each connection under the above classification. All water used in excess of this free allowance is charged for at the regular meter rates.

To Municipalities and Others for Street Sprinkling Purposes—
A minimum charge of $18.00 per year is made for each sprinkling crane, for which the company furnishes 120,000 gallons of water at the special rate of 15c per 1,000 gallons. All consumption in excess of 120,000 gallons per year is charged for at the rate of 15c per 1,000 gallons.

Water Used for Sewer Flushing—
A minimum charge of $12.000 per year is made for each flush tank or sewer flush connection, for which the company furnishes 80,000 gallons of water at the special rate of 15c per 1,000 gallons. All consumption in excess of 80,000 gallons per year is charged for at the rate of 15c per 1,000 gallons.

FIRE HYDRANTS.

Public hydrants under contracts for not less than 5 years—$15.00 per year for each hydrant.

Private hydrants under contracts for not less than 5 years—$20.00 per year for each hydrant.

Sprinkler heads 10c each per day.

Fire outlets inside of buildings:
First outlet $10.00 per year.
The next five outlets $5.00 each per year.
All over six outlets $2.50 each per year.

All of the above rates apply when the water is not measured through a meter. Any consumer can have the use of as many fire outlets or sprinkler heads as he desires without paying the aforementioned rates providing the water first passes through a meter, in which case no fire protection contract is made, the consumer simply using the water through the meter for regular use and fire service also.

In addition to the above the company furnishes compound meters to large establishments that desire to use water for boiler and other purposes, as well as for fire protection. The rates for the compound meters, which rates are in addition to the regular rates for water used for boiler and other purposes, are as follows:

3" compound meter, meter rental $30.00 per year, for which the use of the following fire outlets is allowed:

300 sprinkler heads at 10c each per year, or one fire outlet at $10.00 per year and 4 fire outlets at $5.00 each per year.

4" compound meter, meter rental $50.00 per year, for which the use of the following fire outlets is allowed:

500 sprinkler heads at 10c each per year, or one fire outlet at $10.00 per year. Five fire outlets at $5.00 each per year and six fire outlets at $2.50 each per year.

6" compound meter, meter rental $100.00 per year, for which the use of the following fire outlets is allowed:

1,000 sprinkler heads at 10c each per year, or one fire outlet at $10.00 per year, five fire outlets at $5.00 each per year, 26 fire outlets at $2.50 each per year.

In every case where a compound meter is furnished an additional charge is made if the sprinkler heads or fire outlets at the rate set forth above exceed the annual rental of the meter.

Fire protection to private residences is furnished through independent service pipes at the following rates:

First fire outlet,	$10 00 per year
The next five fire outlets,	5 00 per year
All over six outlets, each,	2 50 per year

The minimum annual charge in all cases being $15.00.

VALUATION.

Reproduction Costs.

An inventory and appraisal of respondent's properties as of January 1, 1914, was made by Benezette and C. B. Williams, engineers for respondent, submitted in evidence at the hearing held October 9, 1914, and designated Respondent's Exhibit A; also an inventory and appraisal of said properties was made by respondent's engineer, John W. Alvord, as of said date, and submitted in evidence at the hearing held on January 5, 1915, and designated Respondent's Exhibit K.

The work of checking these valuations was made for the Public Service Commission by Morris Knowles, who submitted his report on December 28, 1916.

The Bureau of Engineering of the Public Service Commission then reviewed all of these reproduction costs, brought the same up to the end of the year 1914, and found the cost of reproduction new less accrued depreciation and not including bond discount, to be $7,137,895, or for January 1, 1914, to be $6,980,619.

In the following table is shown the items and total results of each one of the said four appraisals:

TABLE SHOWING COMPARISON OF ESTIMATES OF REPRODUCTION COST NEW, AND REPRODUCTION COST NEW LESS ACCRUED DEPRECIATION AS OF JANUARY 1, 1914

Item.	Estimates of Benezette and C. B. Williams, Engineers for Respondent. (Exhibit A, Oct. 9, 1914.)*			Estimate of John W. Alvord, Engineer for Respondent. (Exhibit K, Jan. 5, 1915.)*			Estimate of Morris Knowles, Report to Public Service Commission. (Received Dec. 28, 1916.)			Estimate of Bureau of Engineering, Public Service Commission. (Exhibit 1, Oct. 17, 1917.)		
	Reproduction Cost New.	Accrued Depreciation.	Reproduction Cost New Less Accrued Depreciation.	Reproduction Cost New.	Accrued Depreciation.	Reproduction Cost New Less Accrued Depreciation.	Reproduction Cost New.	Accrued Depreciation.	Reproduction Cost New Less Accrued Depreciation.	Reproduction Cost New.	Accrued Depreciation.	Reproduction Cost New Less Accrued Depreciation.
1 Real estate,	$261,476	$100	**$261,376	$251,844	.....	$251,844	$245,600	.....	$245,600	$245,600	.....	$245,600
2 Rights of way,	10,951	.....	10,951	10,951	.....	10,951	11,000	.....	11,000	11,000	.....	11,000
3 Water rights	400,000	.....	***400,000	188,705	.....	**188,705	126,600	.....	*126,600	88,600	.....	88,600
4 Pipe system and appurtenances,	4,873,623	302,400	4,571,223	4,180,963	$176,487	4,004,476	3,864,300	$244,710	3,619,590	3,671,800	$238,500	3,433,300
5 Reservoirs,	190,822	32,161	158,661	169,220	30,031	139,189	145,000	7,700	137,300	145,000	7,760	137,240
6 Standpipes,	143,496	13,492	130,004	116,967	29,705	87,262	139,500	24,300	115,200	139,500	24,340	115,160
7 Crum Creek pumping station and equipment,	279,103	44,507	234,596	250,606	46,459	204,147	223,300	45,955	177,340	223,300	46,130	177,170
8 Pickering Creek pumping station and equipment,	302,729	56,852	245,877	244,251	40,399	203,852	231,900	34,410	197,490	240,300	34,640	205,660
9 Neshaminy Creek pumping station and equipment,	230,220	5,314	224,906	189,556	9,686	179,870	180,200	8,785	171,415	180,200	8,820	171,380
10 Overbrook repumping station and equipment,	21,462	15,023	**6,439	19,245	8,764	10,481	12,300	6,600	5,700	12,300	6,640	5,660
11 Darby Creek pumping station and equipment,	15,942	7,971	**7,971	15,687	2,724	12,963	.....	.....	**	**	.....	**
12 Conshohocken pumping station and equipment,	14,487	13,112	**1,375	9,696	6,838	2,858	.....	.....	**	**	.....	**
13 Ridley Park station,	1,752	1,752	**	1,265	949	316	.....	.....	**	**	.....	**
14 Wayne station,	1,000	.....	**1,000	7,655	3,827	3,828	.....	.....	**	**	.....	**
15 Office furniture and road equipment,	27,009	6,741	20,268	23,788	.....	23,788	23,800	.....	23,800	35,000	.....	35,000
16 Materials and supplies,	14,442	1,499	12,943	13,060	.....	13,060	25,000	.....	25,000	26,400	.....	26,400
17 Working capital,	.....	.....	.....	.....	.....	.....	50,000	.....	50,000	81,000	.....	81,000
18 Promotion, organization and legal expenses,	126,824	9,512	117,312	150,000	.....	150,000	117,100	.....	117,100	100,000	.....	100,000
19 Contingencies,	.....	.....	.....	208,000	14,000	194,000	310,782	22,376	288,406	228,770	16,925	211,845
20 Engineering,	.....	.....	.....	390,000	26,250	363,750	258,985	18,647	240,338	228,770	16,925	211,845
21 General expenses,	.....	.....	.....	182,000	12,250	169,750	103,533	7,477	96,056	137,262	10,140	127,122
22 Financial cost,	.....	.....	.....	.....	.....	.....	161,800	.....	161,800	158,600	.....	158,600
23 Loss of interest during construction,	.....	.....	.....	516,480	31,800	484,680	403,200	27,800	375,400	585,000	42,130	542,870
24 Going cost (loss of interest during operation),	1,162,165	.....	1,162,165	1,107,640	.....	1,107,640	880,000	.....	880,000	895,167	.....	895,167
25 Services and Pickering Creek raceway not depreciated,	.....	.....	.....	.....	.....	.....	75,900	.....	75,900	.....	.....	.....
Totals,	$8,077,503	$510,436	$7,567,067	$8,247,579	$440,169	$7,807,410	$7,589,800	$448,760	$7,141,040	$7,433,569	$452,950	$6,980,619
Less property now inactive,	47,331	22,935	24,396	.....	.....	.....	.....	†93,000	†93,000	.....	.....	.....
Total of engineers' summaries,	$8,030,172	$487,501	$7,542,671	$8,247,579	$440,169	$7,807,410	$7,589,800	$541,760	$7,048,040	$7,433,569	$452,950	$6,980,619

GENERAL NOTE.—The Bureau of Engineering in its report also studied the cost of reproduction new and cost of reproduction new less accrued depreciation as of Dec. 31, 1914. The result was $7,610,064 and $7,137,895 respectively.

WILLIAMS REPORT.—*15% for all indirect or overhead costs, in addition to promotion, organization and legal expense and going cost, is included in all items as shown above.

**Included in this amount is certain property now inactive.

***Included in this amount is an allowance of $358,426 to cover "Water Right Value," which is present value of water rights in excess of this cost.

ALVORD REPORT.—*No allowance made for working capital on basis that such allowance would only be useful in considering revenue to produce fair return, and would be in no way a part of value of plant.

**Included in this amount is an allowance of $88,766 to cover "Water Power Values" as yet undeveloped.

KNOWLES REPORT.—*Included in this amount is an allowance of $43,000 to cover "Water Power Values" as yet undeveloped.

**These items considered as not used or useful and hence not a part of estimate.

†Contingent depreciation as 1% per year, average age 12 years.

BUREAU OF ENGINEERING REPORT.—*In the above estimate the Bureau of Engineering included bond discount, amounting to $722,400, in the computations for loss of interest during construction and going cost. Other than in these computations the amount was not capitalized.

**These items considered as not used or useful and hence not a part of estimate.

SPRINGFIELD CONSOLIDATED WATER COMPANY AND LEASED COMPANIES.
STATEMENT OF ORIGINAL COST OF REAL ESTATE, PLANT AND EQUIPMENT AS AT DECEMBER 31, 1914.

AS REPORTED BY THE BUREAU OF ACCOUNTS AND STATISTICS.

	Springfield Consolidated Water Company.	Springfield Water Company.	North Springfield Water Company.	Conshohocken Gas and Water Company.	Rockledge Water Company.	Eddystone Water Company.	Extension and Improvement.	Total.
1—Promotion and organization,	$13,587 79	$5,622 81	$6,366 21	$737 65	$350 77	$260 58	.....	$26,925 81
2—Legal expenses,	1,885 04	1,405 82	498 70	.....	10 00	.....	.....	3,799 56
3—Office furniture and fixtures,	7 75	1,472 53	1,434 77	298 29	.....	.....	.....	3,213 34
4—Dams:								
Neshaminy,	14,133 05	.....	.....	.....	.....	.....	.....	14,133 05
Crum Creek,	.....	71 90	.....	.....	.....	.....	.....	71 90
Pickering Creek,	.....	.....	17,237 21	.....	.....	.....	.....	17,237 21
5—Race and improvements,	.....	403 21	5,253 04	.....	.....	.....	.....	5,656 25
6—Suspension bridge (Pickering Creek),	.....	.....	863 63	.....	.....	.....	.....	863 63
7—Pumping stations:								
Neshaminy,	51,582 03	.....	.....	.....	.....	.....	.....	51,582 03
Crum Creek No. 1,	.....	5,984 74	.....	.....	.....	.....	.....	5,984 74
Crum Creek No. 2,	.....	41,509 73	.....	.....	.....	.....	.....	41,509 73
Crum Creek No. 3,	.....	6,715 25	.....	.....	.....	.....	.....	6,715 25
Crum Creek No. 4,	.....	6,013 33	.....	.....	.....	.....	.....	6,013 33
Overbrook,	.....	7,195 19	.....	.....	.....	.....	.....	7,195 19
Pickering Creek,	.....	.....	40,088 90	.....	.....	.....	$1,874 34	41,963 24
Melrose (Oak Lane),	.....	.....	2,648 71	.....	.....	.....	.....	2,648 71
Conshohocken,	.....	.....	.....	7,714 46	.....	.....	.....	7,714 46
Darby Creek,	.....	7,303 68	.....	.....	.....	.....	.....	7,303 68
Lansdowne,	.....	1,032 91	.....	.....	.....	.....	.....	1,032 91
8—Pumping station equipment:								
Neshaminy,	42,522 03	.....	.....	.....	.....	.....	.....	42,522 03
Crum Creek No. 1,	.....	21,456 99	.....	.....	.....	.....	.....	21,456 99

SPRINGFIELD CONSOLIDATED WATER COMPANY AND LEASED COMPANIES—Continued.

	Springfield Consolidated Water Company.	Springfield Water Company.	North Springfield Water Company.	Conshohocken Gas and Water Company.	Rockledge Water Company.	Eddystone Water Company.	Extension and Improvement.	Total.
Crum Creek No. 2,		70,759 72						70,759 72
Crum Creek No. 3,		2,083 53						2,083 53
Crum Creek No. 4,		14,938 49						14,938 49
Overbrook,		11,737 64						11,737 64
Pickering Creek,			69,050 30					69,050 30
Melrose (Oak Lane),			5,958 36					5,958 36
Devon,			2,064 68					2,064 68
Chestnut Hill (temporary station),			1,558 53					1,558 53
Conshohocken,				9,079 84				9,079 84
Darby Creek,		3,852 98						3,852 98
Lansdowne,		79 76						79 76
9—Pumping station piping,	13,612 03	2,403 68	1,659 50					17,675 21
10—Railroad siding,	1,918 34	401 05						2,319 39
11—Alan House—Tank and pipe line,	4,159 97	259 00	183 55					4,602 52
12—Mechanical filters,	12,264 91	24,018 22	8,368 72				25,293 40	69,945 25
13—Sand filters,		1,543 11	36,296 57					37,839 68
14—Sedimentation:								
Sedimentation basin and connections,	43,489 79	4,107 56	32,084 65					79,682 00
15—Reservoirs:								
Crum Creek,		21,310 05						21,310 05
Marple Hill,		7,015 35						7,015 35
Secane,		10,584 80						10,584 80
Newtown Square,		24,662 21						24,662 21
Overbrook,		15,036 48						15,036 48
Devon,			14,716 63					14,716 63
Diamond Rock,			9,522 00					9,522 00
Green Tree,			1,991 64					1,991 64
Valley Forge,			9,989 48					9,989 48

Wayne,			57 20					57 20
Conshohocken,			6 14	15,474 71				15,480 85
West Conshohocken,			568 00					568 00
Lansdowne,		412 77						412 77
16—Stand pipes:								
Ardmore,		7,934 53						7,934 53
Bryn Mawr,		20,778 62						20,778 62
Swarthmore,		4,694 31						4,694 31
Chestnut Hill,			20,506 42					20,506 42
Hillside,			37,344 69					37,344 69
Melrose (Oak Lane),			7,798 58					7,798 58
Conshohocken,			7,315 52	12 20				7,327 72
17—Tanks:								
Lansdowne,		1,562 71						1,562 71
Pickering Creek (filter tank),							3,681 79	3,681 79
18—Distribution system:								
Force mains,	109,662 26	259,553 18	109,564 10					478,779 54
Piping system,		1,086,402 94	1,166,400 66	63,755 90	24,939 31	20,479 68	15,030 11	2,377,098 80
Fire hydrants and connections,	191 95	26,127 99	17,251 95	2,841 55	348 24	537 25	884 32	48,183 25
19—Meters and connections,	830 00	104,943 56	92,515 66	12,675 24		64 37	89 25	211,118 08
20—Service pipes,			3,023 35	2,271 75				5,295 10
21—Highway equipment,		14,912 70	8,519 03					23,431 73
22—Stable equipment,		7,097 78	1,215 80					8,313 58
23—Cable to Diamond Rock and Valley Forge reservoirs,			7,394 46					7,394 46
24—Real estate and rights of way:								
Real estate,	36,955 93	145,625 28	52,294 84	1,767 65				236,623 70
Rights of way,	425 00	2,513 40	7,134 25			15 00		10,087 65
Permits,		4,468 69	1,478 11	2 00	62 86	61 85	201 68	6,275 19
Water rights,	20,980 90	18,164 70	2,270 13					41,415 73
25—Insurance,	3 32	488 03	627 70	4 23				1,123 28
26—Interest and taxes,	2 50	132 72	6,154 98			2,620 00		8,910 20
27—Engineering,	10,177 69	17,216 63	10,010 67	2,604 58	1 37	2 01	41 63	40,054 58
28—Wells and springs,		4,207 34	5,391 47	334 03				9,932 64
29—Supplies on hand (Dec. 31, 1914),	26,371 92							26,371 92
30—Amount representing investment in plant and equipment for which inventory was submitted but not giving the cost of the various units of plant:								
Wayne Water Works Co.,			102,245 68					102,245 68
Glenside Water Co.,			14,000 00					14,000 00
Ridley Park Cold Springs Water Co.,		23,750 00						23,750 00
Lansdowne Water Company,		20,000 00						20,000 00
Peoples Water Co. of Delaware County,		8,789 08						8,789 08
Spring Garden Insurance Company,		4,000 00						4,000 00
Clifton Heights Water Company,		3,080 64						3,080 64
Totals,	$404,744 20	$2,107,839 32	$1,949,015 17	$119,574 08	$25,712 55	$24,040 74	$47,096 52	$4,678,022 58
Less amount charged off on books for depreciation,		5,262 66	2,969 59	8,253 53				16,485 78
	$404,744 20	$2,102,576 66	$1,946,045 58	$111,320 55	$25,712 55	$24,040 74	$47,096 52	$4,661,536 80

Original Cost.

The Bureau of Accounts and Statistics of the Commission made an investigation of the books and accounts of the respondent to ascertain the original cost of construction. The cost of real estate, plant and equipment of the Springfield Consolidated Water Company and leased water companies as of December 31, 1914, less depreciation charged off on the books amounting to $16,485.78, and excluding bond discount, cost of establishing business, commissions, contractor's overhead costs and profits, was $4,661,536.80. The foregoing table (see pages 419-21 ante) shows the result of the work of the Bureau of Accounts and Statistics.

Taking this report of the auditors of the original cost of the physical plant, as the basis, the Bureau of Engineering of the Commission made an investigation and reported and so testified that the original cost of said real estate, plant and equipment as of December 31, 1914, including commissions, contractor's overhead costs and profits, some items of loss of interest, etc., was $5,982,791.98 made up as follows:

Name of Company.	Cost.
Springfield Water Company,	$2,711,263 12
North Springfield Water Company,	2,555,250 51
Conshohocken Gas and Water Company,	106,985 07
Rockledge Water Company,	30,060 43
Eddystone Water Company,	34,644 71
Springfield Consolidated Water Co. (original),	544,588 14
Total,	$5,982,791 98

To the above amount the bureau of engineering added $451,729.57 as the discount on bonds issued for plant; the sum of $1,060,718.16 as the cost of establishing the business and $81,481.53 for working capital, thus making the original cost on this basis $7,576,721.24. The original cost as thus stated by the bureau of engineering includes the various items above referred to which the bureau of accounts and statistics did not consider.

As to the bond discount which the bureau of engineering has considered as a part of original cost, we are of the opinion that this

should have been taken care of in the rate of return, and should be amortized out of the revenue over a period of years "and should not be included in the fixed capitalization of the company as a basis of a permanent charge against the public." This is in accordance with the recent decision of the Supreme Court in Ben Avon Borough, et al., v. Ohio Valley Water Company [6 P. C. R. 60, 74].

John W. Ledoux, chief engineer of the American Pipe and Construction Company, who designed and had engineering charge of all of respondent's plant from the inception of the constituent companies, and who was called on behalf of the respondent, testified that the investment in plant based on the original cost from the year 1872, to December 31, 1914, of the Springfield Consolidated Water Company and leased companies was $10,938,789.07, of which total $4,958,211.50 was loss of interest below a 7% rate of return. Mr. Ledoux also testified that the total investment for the same period was $13,349,006.84, of which total $7,368,429.27 was loss of interest below an 8% rate of return. In arriving at these figures Mr. Ledoux computed depreciation for each year of the above mentioned period at 1% on the physical plant, and in addition to this allowance he further added the deficit occurring in each year to the plant cost and computed the rate or return on this total. In other words, he increased the total expenses for each year of the life of the property, by an allowance of 1% for depreciation on the physical plant and by an additional allowance equal to the rate of return on the deficit occurring in each preceding year.

Amount in Market Value of Bonds and Stocks.

Bonds—There were outstanding on December 31, 1914, bonds of the Springfield Consolidated Water Company and leased companies, to the amount of $9,360,100. All of the bond issues have been inactive for some years with the exception of those of the Springfield Water Company (Consolidated 5's), North Springfield Water Company (First 5's), and Springfield Consolidated Water Company (First 5's).

The market value of all the issues except Springfield Consolidated Water Company (First 5's), Lansdowne Water Company (First 4's), and Conshohocken Gas & Water Company (First 4's),

are based upon the prices at which the bonds sold at auction, using the last sale prior to December 31, 1914.

The Conshohocken Gas & Water Company (First 4's) being guaranteed, principal and interest, by the North Springfield Water Company and being held by one banking interest, and there having been no sales of this security since the bonds were issued, are rated at a market value of par, they being guaranteed bonds.

The Lansdowne Water Company (First 4's) have, since December 31, 1914, been paid off from the sinking fund and retired at par subsequent to December 31, 1914. The market value of these bonds have been considered at par on the above date.

The Springfield Consolidated Water Company (First 5's) were issued at various rates, some at par in exchange for stock of underlying companies, some at 90 for construction work, and some at 85. The following table is a statement of the market value of all the bonds of the respondent company, and in this table the bonds of the Springfield Consolidated Water Company (First 5's) has been considered at 82.5:

Name of Company.	Bonds.	Amount Outstanding.	Rate.	Market Value.
Springfield Consolidated,	1st 5's	$3,548,100 00	82.5	$2,923,107 50
Springfield,	1st 6's	413,000 00	101.0	417,130 00
Springfield Consolidated,	1st 5's	2,278,000 00	90.5	2,061,590 00
Bryn Mawr,	1st 6's	185,000 00	102.25	189,162 50
Eddystone,	1st 6's	29,000 00	102.25	29,652 50
Lansdowne,	1st 4's	12,000 00	100.0	12,000 00
N. Springfield,	1st 5's	2,000,000 00	90⅛	1,802,500 00
Berwyn,	1st 6's	500,000 00	101⅛	505,625 00
Oak Lane,	1st 6's	150,000 00	100.25	153,750 00
Wayne Water Works,	1st 4-5's	150,000 00	88.0	132,000 00
Conshohocken Gas and Water,	1st 4's	100,000 00	100.0	100,000 00
	.....	$9,360,100 00	.....	$8,326,517 50

For stock that did not represent plant, the respondent obligated itself when the other companies were leased in 1908, to pay and did pay in bonds a total of $1,604,200, which deducted from the total issue of respondent's first 5's, leaves $1,938,900.00 of bonds at par that went for plant, and this amount at a market value of 82.5 is equivalent to $1,599,592.50. In the above table the market value of this issue is therefore seen to be $1,323,515 greater, this difference representing the market value of bonds that were put into stock and not into plant. Deducting the latter amount from

the total market value of all bond issues and there remains $7,003,002.50 as the probable market value of bonds invested in plant as of December 31, 1914.

Capital Stock—The outstanding capital stock of the Springfield Consolidated Water Company and its leased companies, on December 31, 1914, totaled $5,100,000. In ascertaining the original cost of construction this stock was considered valueless. However, considered as a security, this stock, or a majority of it, carrying with it control of the companies, must have some value that would command a price in the market. The Auditor General of Pennsylvania assesses this stock for taxation purposes at $355,000. This market value of capital stock which is taxed at $355,000, which sum is considered as the market value, is made up as follows:

Name of Company.	Stock Outstanding.	Market Value.
Springfield Consolidated Water Co.,	$2,500,000 00	$325,000 00
Springfield Water Co.,	1,500,000 00	15,000 00
N. Springfield Water Co.,	1,000,000 00	10,000 00
Eddystone Water Co.,	20,000 00	2,000 00
Conshohocken Gas and Water Co.,	75,000 00	1,000 00
Rockledge Water Co.,	5,000 00	2,000 00
Total,	$5,100,000 00	$355,000 00

Notes.—There were outstanding on December 31, 1914, notes of the respondent amounting to $100,000.00, the market value of which was $100,000.00.

The securities of the respondent have never been placed on the market in large blocks and the sales in the past have been very infrequent. It is therefore practically impossible to determine the real market value of respondent's securities. Since the investigation of respondent's property the bonds have depreciated further in value than is shown in the above table.

Fair Value.

After consideration of the evidence and giving due weight to all the elements bearing on fair value including the original cost of construction, the reproduction costs of the property, the amount in value of its bonds and stocks, the probable earning capacity, the development and going concern value and making a proper allowance for working capital, the Commission finds the fair value of the respondent's property as of October 1, 1917, is $6,953,320.00.

PUBLIC REQUIREMENTS.

State regulations of rates is imposed to remove the element of uncertainty in the conduct of utility business. The State undertakes to see that the public shall be protected against undue profit to the company and that the company shall be protected against loss of fair return on the plant investment. Because a public water works is one of the most important and vital things upon which the health and welfare of the community depends, a failure on the part of the company to discharge its franchise obligations is a detriment to the community. Nothing so disturbs and impairs the service due from the utility to the public as financial unsoundness of its business. Hence the public is vitally concerned that the business shall be conducted upon sound financial principles. To maintain the desired standard of service and to provide for the demands accompanying growth in population and industry, money for new investments is necessary, and it must be readily available, that is, the business must be on such a sound basis that banking institutions can recommend to investors the purchase of the securities issued by the company.

The matter of adequate facilities for such a vast and important territory as respondent's properties serve, involves not only the needs of the territory at the present moment, but also the needs of the immediate future which press upon present demands. Furthermore, the probability of growth and development of the territory beyond the near future must be taken into account in planning economically for betterments and extensions.

Consequently, since it has been hereinbefore shown that extensions, improvements and betterments to respondent's properties must be made, it may be conceded to be a part of the duty of the Commission to consider a developmental program which shall call forth immediate expenditures necessary to make the present facilities adequate for proper service, other expenditures a little later, and still other expenditures necessary but which may be postponed for several years, all of which should be reflected in the rate schedule to be fixed and determined in order that a financial program shall be arranged by the company requiring no change in rates for a sufficient number of years to render the securities attractive to the investor.

The estimates of cost for the additional facilities to be provided immediately in order to give adequate service and other expenditures necessary for public requirements as submitted in evidence and testified to by the Commission's bureau of engineering and offered for a construction program for the three years 1918, 1919, and 1920, are as shown in the following table:

ADDITIONAL FACILITIES TO BE INSTALLED DURING THE YEAR 1918.

Item.	Estimated Cost.
1. Additional pump at Pickering Creek station—5,000,000 gallons capacity, ..	$45,000
2. (a) 16-inch piping at Marple Hill reservoir,	2,000
(b) 16-inch supply line to Secane reservoir,	51,000
(c) Suction and discharge for Booster,	3,600
(d) 36-inch race to sedimentation basin,	8,500
3. 10-inch feeders—Oaklane,	16,200
4. Water tower at Cynwyd—40 feet diameter,	33,000
5. 16-inch supply line—Secane reservoir to Moore's,	90,900
6. 20-inch supply line—Valley Forge reservoir to Devon reservoir,	210,700
7. 20-inch supply line in Delaware County,	238,200
8. Storage reservoir at Crum Creek—158,000,000 gallons capacity,	200,000
9. Extensions to street pipe system,	150,000
Total for year 1918,	$1,048,100

ADDITIONAL FACILITIES TO BE INSTALLED DURING YEARS 1919 AND 1920.

1. Standpipe at Melrose,	$20,000
2. Additional filters at Pickering Creek station—2,000,000 gallons capacity, .	40,000
3. New boiler plant at Pickering Creek station,	33,000
4. 20-inch force main to Valley Forge reservoir,	165,000
5. Extensions to street pipe system,	300,000
Total for years 1919 and 1920,	$558,000
Total estimated cost of extensions and improvements for three year period,	$1,606,100

With respect to an allowance for expenditures for street pipe extensions: At the present time, it is the practice of the respondent, where the laying of a pipe line out some new street to three or four dwellings at the end thereof is requested, not to do the work unless the prospective consumers advance the cash necessary to build the line over and above the cost of 50 feet per consumer of 6-inch pipe or its equivalent which the company assumes. In other words, the respondent borrows the money from its patrons and returns to them their investment as the pipe line becomes a self-supporting proposition. There is no feature of the management of respondent's properties more objectionable to the rate payer than this one of compelling him to advance the capital for pipe line extension to his property.

The Commission is of the opinion that the general application of this mode of extension is contrary to the charter obligations requiring the respondent company to supply the public with water. Within reasonable limits, a water company should extend its mains to the public and recoup any loss first sustained thereby, through the fair rate of return allowed on the investment in the property as a whole.

While the Commission, in considering special cases brought before it where it was patent on the face of things that public requirements did not dictate the pipe extension should be made, has decided that the prospective patron in some instances shall guarantee the return to the water company on the investment necessary or make the investment himself, the Commission has not reached the conclusion that public requirements dictate that general extensions of street pipes shall be included in such a classification. The Commission finds and determines that general extensions to respondent's distributing system shall be made by the respondent, primarily at its own cost and expense, and the return thereon shall be included in the amount which the Commission will fix as the fair return on the investment in respondent's property as a whole. Therefore, based on this determination, the annual expenditures for street pipe extensions will be included in the construction program the same as other items of expenditure for plant.

Rate of Return.

The theory of law is that all capital prudently invested in a public utility is entitled to a reasonable return plus the cost of operation and maintenance. The term "Fair Rate of Return" is interpreted to mean a rate of interest on the fair value of the property in order that the earnings shall be sufficiently large to take care of operating and maintenance expenses and provide a fair return on the fair value of the property.

Taking into account the condition of respondent's property and the important territory it serves, the tremendous strides in growth of population and industry, the Commission finds that a rate of return of 7% on the investment rate base will be fair and reasonable.

This allowance for fair return on estimated plant investment is made with the understanding that if the actual expenditures shall be found to be materially different than the estimates, the Commission may impose corresponding corrections.

Meters.

At the present time, as of December 31, 1917, the company has installed and owns 18,920 meters, but it has on its system 6,738 unmetered services. In the opinion of the Commission all water sold except for fire protection should be measured by a meter, and the Commission so finds and determines. No allowance for this additional expenditure, which will be considerable, is made in the construction program. When the meters are installed the cost will be added to the fair value as herein found, and if the revenue produced under the schedule proposed should not be sufficient to provide a fair return on that cost, the Commission will modify the rates to provide more revenue.

Annual Depreciation.

The engineers who testified in this case estimated depreciation basing their estimates upon the life expectancy in service of the various units of physical property. That an allowance should be made in operating expenses for the current depreciation in the property has come to be so well established as hardly to need argument or explanation. An accurate cost of rendering service cannot be ascertained without taking it into consideration. After considering in detail all the evidence offered upon the subject, the Commission is of the opinion and so finds that the annual allowance for depreciation should be as follows:

For the year 1918, ...	$59,633
For the year 1919, ...	60,771
For the year 1920, ...	61,917

the amounts being based upon the value of the properties and increased allowances being made for the expected extensions to the facilities of the respondent. Further increases in this item should be provided for by the respondent as further extensions to its facilities are made, in proportion to the cost of such extensions.

Operating Expenses.

The actual operating expenses of respondent, exclusive of depreciation, for several years past is shown in the following table:

Year.	Amount.
1912,	$173,988
1913,	175,579
1914,	187,626
1915,	195,440
1916,	208,927
1917 (estimated),	250,000

The increase in the cost of operation for the year ending December 31, 1917, was due to the abnormal increase in the cost of fuel and the steadily increasing cost of labor. For 1917, the estimated increase in the cost of fuel is $25,000, and the estimated increase in cost of labor $16,073, a total of $41,073.

The Commission is of the opinion that a new standard of labor costs and material costs will be maintained during the war and for several years thereafter. Taking the estimated cost of operation for the year 1917, namely, $250,000, as the new base, it is estimated that the annual increase in operating expenses in the future will be proportionate to the increase in water consumption. On this basis, the operating expenses for each year of the three-year period under consideration will be as follows:

Year.	Amount.
1918,	$262,500
1919,	275,000
1920,	287,500

Gross Revenue to be Earned.

The gross revenue earned by the respondent company for the year 1915, was $691,470.50; for the year 1916, it was $760,558.86; and for the year 1917, it has been at least $847,555. The Commission, as hereinbefore shown, having determined upon a number of improvements and betterments to be made by the respondent company within the next three years, and estimated the expenditure thereon for the year 1918, to be $1,048,100, and having determined that the fair rate of return should be computed at 7% per annum upon the fair value of the property, plus the estimated cost of the improvements ordered to be made during the present

year, finds the gross revenue for the year 1918, to be $560,099, plus operating expenses of $262,500, and an allowance for depreciation of $59,633, or a total of $882,232.

APPORTIONMENT OF GROSS REVENUE.

The schedule of rates under which respondent is now collecting its revenue does not meet the requirements which we believe should be inherent in a rate schedule. Instead of being based on the cost of service rendered, this existing schedule is based solely on the quantity of water which the consumer expects to use. Necessarily, therefore, it includes a speculative element and it is by chance, if at all, that it results in an approximation to an equitable distribution of charges. Under the existing schedule a consumer having a certain maximum demand may pay a larger sum for a smaller quantity of water than another consumer with the same maximum demand would pay for a larger quantity of water. The Commission is of the opinion that this condition should be corrected.

In respondent's property two distinct services are rendered; first, the supplying of large quantities of water under high pressure, for relatively short periods of time, for fire protection; second, the supplying of water at all times for domestic and industrial uses. Each of these services requires a distinct investment. Without the fire protection investment, the plant as a whole would cost considerably less. To be equitable, the rates for the fire protection service should be based on the cost of such service, and the rates for domestic and industrial service should be based on the cost of that service.

Certain parts of a water works property are directly assignable to specific uses. Thus, for instance, hydrants obviously relate to fire protection only, while meters and services are directly assignable to domestic and industrial uses only. Pumps, reservoirs, standpipes and distributing mains are general in their use and so must be prorated to either one or both of the services which they render.

The segregation of respondent's property was carefully computed by the Commission's bureau of engineering and the results offered in evidence. These results show that the application of the peak load theory, which divides the cost of the various items

of property in proportion to the maximum demand made upon them by the two services, requires the apportionment of approximately 75% of the total investment in respondent's plant to domestic and industrial service, and approximately 25% to fire service. Likewise, evidence was offered to show that the proportion of operating expenses applicable to fire protection service is 9.6%. The following table shows the apportionment of gross revenue to fire protection service and to domestic and industrial service for the year 1918:

	Apportionment to Service.	Apportionment to Domestic and Industrial Service.
1918, ...	$180,130	$702,102

THE RATE STRUCTURE.

Public Fire Protection Charges.

The total public fire protection revenue to be earned by the respondent is to be secured by means of two charges; first, a charge per hydrant; and second, a charge per mile of pipe in the distributing system, four inches or larger in diameter furnishing fire protection service.

The charge per fire hydrant should be nominal not more than the total annual cost of operation, maintenance, depreciation, and fixed charges on each hydrant, nor less than a reasonable charge for a hydrant installation, because if a hydrant did not cost anything to install so far as the public is concerned, the municipalities would erect hydrants promiscuously at undue annoyance, cost and waste of water to the respondent company because a hydrant is a constant source of leakage, risk and hazard to a water company. On the other hand, if the charge is high, it would operate as a prohibition to the erection of fire hydrants in sufficient numbers to conserve the public interests.

The Commission has fixed a charge of $7.00 per annum in respondent's case as consistent with the policy above outlined. Most of the revenue, therefore, will be secured by a charge on all pipes in the system, four inches in diameter or larger, which are furnishing fire protection service. This charge per mile is determined

by subtracting the revenue to be earned from the $7.00 charge per hydrant plus the revenue from private fire protection, from the total revenue to be earned from all fire protection service and dividing the result by the number of miles of assessable pipe four inches in diameter or larger. Thus the Commission has fixed a charge of $355.00 per annum for each mile of pipe four inches or greater in diameter in each political sub-division where such pipe furnishes actual or potential public fire service, as fair and reasonable in respondent's case.

In the following table is shown by operating divisions, of respondent's property, the number of public fire hydrants, and number of miles of assessable pipe in each borough and township being served, as of December 31, 1917: [Tables pp. 434-6].

PRIVATE FIRE PROTECTION CHARGES.

The Commission is of the opinion that no extra charge should be assessed for private fire protection service, provided the individual or individuals receiving this service assume the entire cost of the installation and maintenance of the connection to the street system. Under these circumstances, to collect an extra charge would most certainly amount to double taxation, since the proper proportion of the capacity cost of the water works is already included in the public fire protection charge and the payment is made by the borough or municipality out of the general funds raised by taxation. Such individuals are entitled to the benefits of public fire protection just as is any other taxpayer. To place upon the private fire protection user, under these circumstances, an additional service charge for the potentiality of the water works system in standing ready to meet the fire demand, is to deprive him of the benefit of his payment to general taxation so far as the same goes toward payment for the public fire protection.

However, unless such individual receiving private fire protection assumes the entire cost of installation and maintenance of his connection to the street main, he imposes a cost on the water works property in addition to the cost of public fire protection and, therefore, he should pay for the same.

On December 31, 1917, there were 137 private fire service connections on the system owned by the respondent company, the revenue from which is included in the domestic and industrial as-

TABLE SHOWING NUMBER OF PUBLIC FIRE HYDRANTS AND NUMBER OF MILES OF ASSESSABLE PIPE 4" AND LARGER IN DIAMETER IN EACH BOROUGH OR TOWNSHIP AS OF DECEMBER 31, 1917.

SPRINGFIELD CONSOLIDATED WATER COMPANY.

Item Number.	Borough or Township.	Number of Public Fire Hydrants.	Number of Miles of Assessable Pipes.	Description of Pipe Lines Not Assessable.
	SPRINGFIELD DIVISION.			
1	Eddystone Borough,	20	6.490	
2	Darby Borough,	33	8.460	
3	Colwyn Borough,	8	2.349	
4	Collingdale Borough,	23	6.093	
5	Glenolden Borough,	24	6.631	
6	Sharon Hill Borough,	19	4.331	
7	Yeadon Borough,	14	3.721	
8	Aldan Borough,	11	4.141	
9	Clifton Heights Borough,	25	5.839	
10	Lansdown Borough,	37	15.744	
11	Millbourne Borough,	11	.889	
12	Ridley Park Borough,	31	8.036	
13	Norwood Borough,	20	5.103	
14	Prospect Park Borough,	20	5.697	
15	Rutledge Borough,	10	2.177	
16	Morton Borough,	6	3.510	
17	Swarthmore Borough,	30	10.318	
18	East Lansdowne Borough,	7	5.372	
19	Darby Township,	0	0	
20	Upper Darby Township,	71	21.902	
21	Ridley Township,	22	12.639	
22	Springfield Township,	0	13.840	Force main—Crum Creek Station to Devon Res. Force mains—Crum Creek Station to Marple Res. Supply Mains—Marple Res. to Secane Res.
23	Marple Township,	0	0	
24	Haverford Township,	76	31.334	All lines excluded. No fire service and no potential qualities inherent in lines at this time considered.
	Total Springfield Division,	518	184.606	
	BRYN MAWR DIVISION.			
25	Narberth Borough,	28	7.697	
26	Lower Merion Township,	175	80.503	6" line on State Road from Mill Road to end. 8" line on Mill Road from Gulf Road to end.
	Total Bryn Mawr Division,	203	88.200	

	BERWYN DIVISION.			
27	Malvern Borough,	0	0	
28	West Conshohocken Borough,	0	0	
29	Upper Merion Township,	0	0	All lines excluded. Boroughs have independent supply for all purposes. Respondent's lines pass through borough.
30	Easttown Township,	9	13.649	All lines excluded. No fire service and no potential qualities inherent in lines at this time considered.
31	Willistown Township,	3	2.364	Portion of 16" line from Valley Forge Reservoir to Devon Reservoir.
32	East Whiteland Township,	0	0	Glenloch Extension. Excluded on basis of no service and no potential qualities inherent in line at this time considered.
33	Schuylkill Township,	0	0	All lines excluded, no fire service and no potential qualities in lines at this time considered.
34	Radnor Township,	59	32.938	Portion of 16" line from Crum Creek Station to Devon Reservoir.
35	Tredyffrin Township,	18	12.514	Portion of 16" force main from Crum Creek Station to Devon Reservoir 14" supply main from Diamond Rock Reservoir to Paoli and portion of 16" supply main from Valley Forge Reservoir to Devon Reservoir.
	Total Berwyn Division,	89	61.465	
	CONSHOHOCKEN DIVISION.			
36	Conshohocken Borough,	63	9.621	
	Total Conshohocken Division,	63	9.621	
	OAK LANE DIVISION.			
37	Rockledge Borough,	15	3.885	
38	Abington Township,	87	33.481	Portion of 20" force main from Neshaminy Creek Station to Hillside standpipes.
39	Cheltenham Township,	105	36,677	
40	Springfield Township,	42	12.963	
41	Whitemarsh Township,	7	6.420	Assessed as described below.*
42	Plymouth Township,	0	0	
43	Upper Dublin Township,	0	0	All lines excluded, no fire service and no potential qualities inherent in lines at this time considered.
44	Moreland Township,	2	4.905	Portion of 20" force main from Neshaminy Creek to Hillside standpipes.
45	Bensalem Township,	0	0	All lines excluded. No fire service and no potential qualities inherent in lines at this time considered.

TABLE SHOWING NUMBER OF PUBLIC FIRE HYDRANTS AND NUMBER OF MILES IN EACH BOROUGH AND TOWNSHIP—Continued.

Item Number.	Borough or Township.	Number of Public Fire Hydrants.	Number of Miles of Assessable Pipes.	Description of Pipe Lines Not Assessable.
46	Southampton Township,	0	0	
47	Twenty-second Ward (Philadelphia),	105	11.972	
	Total, Oak Lane Division,	363	110.303	
	Grand total,	1,236	454.205	

*Following along the township line dividing Plymouth and Whitemarsh Township is located one of the pipe lines of the company which serves the small communities of Harmanville, Plymouth, Corson, and a portion of Cold Point. Some of the consumers in these communities reside in Whitemarsh Township and some in Plymouth Township. The fire hydrants on this line and the potentiality of the line accrue to the benefit of the consumers in both townships, although the hydrants are located in Whitemarsh Township. We have assessed Plymouth Township with one mile of pipe and Whitemarsh Township with one mile of pipe in addition to other assessable lines in Whitemarsh Township, or a total for said township of 5.42 miles. The hydrants on this line are assessed at $7.00 each, divided equally between Plymouth and Whitemarsh Townships.

sessment, but on these connections there were 223 hydrants owned by the respondent but devoted to private fire protection for which the Commission fixes an annual charge of $15.00 per annum per hydrant.

Domestic and Industrial Charges.

The total domestic and industrial revenue to be earned by the respondent company, as hereinbefore shown, for the year 1918, is $702,102. This revenue should be secured by means of two charges; first, a minimum charge, comprising (a) capacity costs, such as fixed charges on the greater part of the investment and other costs which are proportionate to the size or capacity of the system which is made necessary by the demands put upon it by the consumers, all of which may be equitably distributed to consumers in proportion to their demands which require capacity, and (b) consumer costs, which are independent both of the use of water and of the size or the capacity of the plant, and which vary with the number of consumers, as for example, the cost of reading meters, of billing and collecting, of accounting and inspection, etc., and (c) an allowance covering the cost of furnishing 30,000 gallons of water annually to each and every consumer; second, an output charge based upon the quantity of water used and including (a) out of pocket costs, or those costs which vary closely with the consumption of water of which the item of fuel is the best example, and (b) including the remaining output costs such as the cost of labor and materials used in large units and varying somewhat with but not directly as the consumption of water, typical of which are the wages of pumping station employees.

Minimum Charge.

The minimum charge is based on the assumption that all consumers are placed on a meter basis. Therefore, the costs making up this charge, other than the allowance of 30,000 gallons of water annually, can be proportioned according to the sizes of the meters.

Output Charge.

The output charge is determined by dividing the total output costs by the total consumption of water, the result being a uni-

form meter rate. This uniform meter rate would be logical and desirable, provided it did not drive away large consumers of water, and provided it would tend to develop the business. In general, however, a uniform meter charge does not fulfill these requirements.

The respondent company has a practical monopoly of the supplying of water to the public in its territory. However, it is in competition with other sources of supply as long as it deals with a customer who uses so large a quantity of water as to make the development of an independent supply an economic possibility. This obtains particularly with those consumers whose industries are located along the Delaware and Schuylkill rivers. It is desirable that the patronage of such large consumers be retained, not only to develop the business and consequently benefit the respondent, but also for the benefit of all the consumers on the system. If such a large consumer is lost, his contribution to the capacity charge is lost, the quantity of water sold is decreased and if the rate schedule is to return the required amount of gross revenue, it must be correspondingly increased and the cost to other consumers increased.

Wherever it is necessary to retain desirable custom, concessions to large consumers should be made. Such concessions cannot be carried beyond a certain point without actually increasing instead of decreasing the cost of water to other consumers. The reason for this is that some portion of the expenses vary directly and closely with the water consumed, so that if a large consumer is lost, it may result in actual saving of operating expenses. It is evident, therefore, that if water were sold to such a large consumer at a price actually less than these costs, instead of securing a contribution to the fixed costs, from such a consumer and relieving the other consumer of the burden, an additional burden would be put upon the other consumers.

These costs that vary closely with the amount of water sold and below which it is not beneficial to sell water to any consumer, no matter how large, are the out of pocket costs which represent the cost to be assessed on every unit of quantity that is sold, regardless of how much water a consumer takes. If this cost is spread evenly over the entire quantity of water sold, it will fix a meter rate which is the lowest limit below which any sliding scale of charges should not go.

The Rate Schedule.

The Commission has fixed and determined and allows for fire protection service and for domestic and industrial service revenues in the amounts as hereinbefore stated. To secure these revenues, the following rate schedule is established:

A. *Minimum Charge Schedule.*

All services except public and private fire services shall be subject to a minimum charge, which shall include the furnishing of 30,000 gallons of water annually. This minimum charge shall be based upon the size of meter and shall be as follows, payable quarterly:

For a meter	5/8 inch	or less in diameter, ..	$12.00 per annum
For a meter	3/4 inch	in diameter, ...	16.00 per annum
For a meter	1 inch	in diameter, ...	25.00 per annum
For a meter	1½ inches	in diameter, ...	50.00 per annum
For a meter	1¾ inches	in diameter, ...	65.00 per annum
For a meter	2 inches	in diameter, ...	85.00 per annum
For a meter	2½ inches	in diameter, ...	125.00 per annum
For a meter	3 inches	in diameter, ...	175.00 per annum
For a meter	4 inches	in diameter, ...	300.00 per annum

B. *Meter Schedule.*

All output services of whatever kind rendered by respondent to its patrons shall be on the meter basis, as follows:

In excess of	30,000 gal. and up to	500,000 gal.,	21c per 1,000 gal.
In excess of	500,000 gal. and up to	2,000,000 gal.,	18c per 1,000 gal.
In excess of	2,000,000 gal. and up,	.....	12½c per 1,000 gal.

C. *Public Fire Protection Schedule.*

For all public fire services the following yearly charges will be made:

For each public fire hydrant in each political sub-division, ...	$7.00 per annum
For each mile of pipe 4 inches or greater in diameter in each political sub-division where such pipe furnishes actual or potential public fire service, ...	355.00 per annum

D. *Private Fire Protection Schedule.*

For all private fire protection services the following yearly charge will be made:

Where hydrants are owned by the water company, ...	$15.00 per annum

E. Where service is now being rendered at a flat rate, meters shall be installed by the company at its expense as rapidly as possible, and the installations completed prior to January 1, 1919; in the meantime such service to be charged for at a flat rate to be fixed by the company with the approval of the Commission, such rate to be computed so as to result in reductions comparable to those provided for in the meter rate schedule. These services are to be paid for in advance quarterly.

ORDER.

BY THE COMMISSION:

This matter being before the Public Service Commission of the Commonwealth of Pennsylvania upon complaints and answers on file, and having been duly heard and submitted by the parties, and the Commission having adopted a report to be filed later containing its findings of fact and conclusions thereon, wherein the fair value of the property of respondent as of October 1, 1917, is fixed at $6,953,320; and the Commission having determined upon a number of improvements and betterments to be made by said company within the next three years, and estimated the expenditure thereon during the year 1918 at $1,048,100, and having determined that the fair rate of return to which said company shall be entitled should be computed at seven per cent. per annum upon the fair value of the property and the estimated cost of the improvements ordered to be made during the present year, which will authorize the company to collect a return amounting to $560,099 together with operating expenses of $262,500 and an allowance for depreciation of $59,633 for the year 1918:

Now, to wit, February 19, 1918, in order to accomplish the purposes hereinabove set forth and specified in more detail in said report, the Springfield Consolidated Water Company *is ordered* and directed to file, post and publish a schedule of rates which is estimated to return to said company annually for fire service $180,130, and for domestic and industrial service $702,102, which schedule is to be computed on the following basis:

A. *Minimum Charge Schedule.*

All services except public and private fire services shall be subject to a minimum charge, which shall include the furnishing of 30,000 gallons of water annually.

This minimum charge shall be based upon the size of meter and shall be as follows, payable quarterly:

For a meter	⅝ inch	or less in diameter, ..	$12.00 per annum
For a meter	¾ inch	in diameter, ...	16.00 per annum
For a meter	1 inch	in diameter, ...	25.00 per annum
For a meter	1½ inches	in diameter, ...	50.00 per annum
For a meter	1¾ inches	in diameter, ...	65.00 per annum
For a meter	2 inches	in diameter, ...	85.00 per annum
For a meter	2½ inches	in diameter, ...	125.00 per annum
For a meter	3 inches	in diameter, ...	175.00 per annum
For a meter	4 inches	in diameter, ...	300.00 per annum

B. *Meter Schedule.*

All output services of whatever kind rendered by respondent to its patrons shall be on the meter basis, as follows:

In excess of	30,000 gal. and up to	500,000 gal., 21c	per 1,000 gal.
In excess of	500,000 gal. and up to	2,000,000 gal., 18c	per 1,000 gal.
In excess of	2,000,000 gal., ...		12½c per 1,000 gal.

C. *Public Fire Protection Schedule.*

For all public fire services the following yearly charges will be made:

For each public fire hydrant in each political sub-division, ... $7.00 per annum

For each mile of pipe 4 inches or greater in diameter in each political sub-division where such pipe furnishes actual or potential public fire service, ... 355.00 per annum

D. *Private Fire Protection Schedule.*

For all private fire protection services the following yearly charge will be made:

Where hydrants are owned by the water company, ... $15.00 per annum.

E. Where service is now being rendered at a flat rate, meters shall be installed by the company at its expense as rapidly as possible, and the installations completed prior to January 1, 1919; in the meantime such service to be charged for at a flat rate to be fixed by the company with the approval of the Commission, such rate to be computed so as to result in reductions comparable to those provided for in the meter rate schedule. These services are to be paid for in advance quarterly.

And it is further ordered that the Springfield Consolidated Water Company install the following additional improvements to its system within the periods hereinafter set forth:

ADDITIONAL FACILITIES

To be Installed During the Year 1918.

1. Additional pump at Pickering creek station—5,000,000 gallons capacity.
2. (a) 16-inch piping at Marple Hill reservoir.
   (b) 16-inch supply line to Secane reservoir.
   (c) Suction and discharge for booster.
   (d) 36-inch race to sedimentation basin.
3. 10-inch feeders—Oak Lane.
4. Water tower at Cynwyd—40-feet diameter.
5. 16-inch supply line—Secane reservoir to Moore's.
6. 20-inch supply line—Valley Forge reservoir to Devon reservoir.
7. 20-inch supply line in Delaware County.
8. Storage reservoir at Crum creek—158,000,000 gallons capacity.
9. Extensions to street pipe system.

ADDITIONAL FACILITIES

To be Installed During Years 1919 and 1920.

1. Standpipe at Melrose.
2. Additional filters at Pickering creek station—2,000,000 gallons capacity.
3. New boiler plant at Pickering creek station.
4. 20-inch force main to Valley Forge reservoir.

Heretofore it has been the practice of respondent company to collect from the consumers benefited the initial cost of constructing street extensions in all cases in which the necessary extension required the construction of more than fifty feet of six-inch pipe per consumer, and in order to do away with this unreasonable practice the respondent is ordered hereafter to construct at its own expense all reasonable street extensions; the estimated cost thereof during the construction period having been included by the Commission in the base upon which the fair return in this proceeding is figured.

And it is further ordered that the company prepare a tariff of rates based upon this order to become effective upon one day's notice to the public and this Commission, for all services rendered on and after April 1, 1918, said proposed tariff to be submitted to this Commission for its approval not later than March 1, 1918.

By the Commission,

MICHAEL J. RYAN, *Acting Chairman.*

APPLICATION FOR REHEARING.

After the foregoing order was entered and served on the respondent company, it applied for a rehearing and for a modification of the order.

After argument on this application, the Comimssion, taking into consideration the increased cost of material since its investigation, and since the estimate of reproduction cost was made, has concluded to modify the order heretofore entered and to fix the fair value of respondent's property at $7,203,320 as of October 1, 1917, and the order will be modified to conform to this new valuation as follows:

ORDER.

BY THE COMMISSION:

This matter being before the Public Service Commission of the Commonwealth of Pennsylvania upon complaints and answers on file, and having been duly heard and submitted by the parties, and the Commission having adopted a report containing its findings of fact and conclusions thereon, wherein the fair value of the property of respondent as of October 1, 1917, is fixed at $7,203,320; and the Commission having determined upon a number of improvements and betterments to be made by said company within the next three years and estimated the expenditure thereon during the year 1918 at $1,048,100, and having determined that the fair rate of return to which said company shall be entitled should be computed at seven per cent. per annum upon the fair value of the property and the estimated cost of the improvements ordered to be made during the present year, which will authorize the company to collect a return amounting to $577,599, together with operating expenses of $262,500, and an allowance for depreciation of $59,633 for the year 1918:

Now, to wit, April 8, 1918, in order to accomplish the purposes hereinabove set forth and specified in more detail in said report, the Springfield Consolidated Water Company *is ordered* and directed to file, post and publish a schedule of rates which is estimated to return to said company annually for fire service $180,130, and for domestic and industrial service $719,602; which schedule is to be computed on the following basis:

A. *Minimum Charge Schedule.*

All services except public and private fire services shall be subject to a minimum charge, which shall include the furnishing of 30,000 gallons of water annually. This minimum charge shall be based upon the size of meter and shall be as follows, payable quarterly:

For a meter	⅝ inch	or less in diameter, ..	$12.00 per annum
For a meter	¾ inch	in diameter, ...	16.00 per annum
For a meter	1 inch	in diameter, ...	25.00 per annum
For a meter	1½ inches	in diameter, ...	50.00 per annum
For a meter	1¾ inches	in diameter, ...	65.00 per annum
For a meter	2 inches	in diameter, ...	85.00 per annum
For a meter	2½ inches	in diameter, ...	125.00 per annum
For a meter	3 inches	in diameter, ...	175.00 per annum
For a meter	4 inches	in diameter, ...	300.00 per annum

B. *Meter Schedule.*

All output services of whatever kind rendered by respondent to its patrons shall be on the meter basis, as follows:

In excess of	30,000 gal.	and up to	500,000 gal., 23c	per 1,000 gal.
In excess of	500,000 gal.	and up to	2,000,000 gal., 18c	per 1,000 gal.
In excess of	2,000,000 gal., ...			12½c per 1,000 gal.

C. *Public Fire Protection Schedule.*

For all public fire services the following yearly charges will be made:

For each public fire hydrant in each political sub-division, ... $7.00 per annum

For each mile of pipe 4 inches or greater in diameter in each political sub-division where such pipe furnishes actual or potential public fire service, ... 355.00 per annum

D. *Private Fire Protection Schedule.*

For all private fire protection services the following yearly charge will be made:

Where hydrants are owned by the water company, ... $15.00 per annum

E. Where service is now being rendered at a flat rate, meters shall be installed by the company at its expense as rapidly as possible, and the installations completed prior to January 1, 1919; in the meantime such service to be charged for at a flat rate to be fixed by the company with the approval of the Commission, such rate to be computed so as to result in reductions comparable to

those provided for in the meter rate schedule. These services are to be paid for in advance quarterly.

And it is further ordered: That the Springfield Consolidated Water Company install the following additional improvements to its system within the periods hereinafter set forth:

ADDITIONAL FACILITIES

To be Installed During the Year 1918.

1. Additional pump at Pickering creek station—5,000,000 gallons capacity.
2. (a) 16-inch piping at Marple Hill reservoir.
   (b) 16-inch supply line to Secane reservoir.
   (c) Suction and discharge for booster.
   (d) 36-inch race to sedimentation basin.
3. 10-inch feeders—Oak Lane.
4. Water tower at Cynwyd—40-feet diameter.
5. 16-inch supply line—Secane reservoir to Moore's.
6. 20-inch supply line—Valley Forge reservoir to Devon reservoir.
7. 20-inch supply line in Delaware County.
8. Storage reservoir at Crum creek—158,000,000 gallons capacity.
9. Extensions to street pipe system.

ADDITIONAL FACILITIES

To be Installed During Years 1919 and 1920.

1. Standpipe at Melrose.
2. Additional filters at Pickering creek station—2,000,000 gallons capacity.
3. New boiler plant at Pickering creek station.
4. 20-inch force main to Valley Forge reservoir.

Heretofore it has been the practice of respondent company to collect from the consumers benefited the initial cost of constructing street extensions in all cases in which the necessary extension required the construction of more than fifty feet of six-inch pipe per consumer, and in order to do away with this unreasonable practice the respondent is ordered hereafter to construct at its own expense all reasonable street extensions; the estimated cost thereof during the construction period having been included by the Commission in the base upon which the fair return in this proceeding is figured.

And it is further ordered: That the company prepare a tariff of rates based upon this order to become effective upon one day's notice to the public and this Commission, for all services rendered on and after April 1, 1918, said proposed tariff to be submitted to this Commission for its approval not later than June 1, 1918.

By the Commission,

WM. D. B. AINEY, *Chairman.*

BY THE COMMISSION:

In its report and order of April 8, 1918, the Commission directed the respondent to prepare a tariff of rates, to carry out the various findings of the Commission for all services rendered on and after April 1, 1918, and to submit the proposed tariff to the Commission for its approval not later than June 1, 1918.

In compliance with the order of the Commission, the respondent submitted a proposed set of rules, regulations and rates on May 21, 1918, and on June 10, 1918, submitted a revision thereof, prepared after conference with the Commission. The proposed rules, rates and regulations as finally submitted are accepted by the Commission, and may now be filed in regular tariff form. In accepting these rates, rules and regulations, the Commission approves only the portions thereof dealing specifically with the rates and practices directly before the Commission in these proceedings, and does not, at this time, pass upon the reasonableness of the remaining rules and regulations.

ORDER.

Now, to wit, June 17, 1918, the respondent, the Springfield Consolidated Water Company, *is hereby directed* to file, post, and publish the said rules, regulations and rates in conformity with the tariff regulations of the Commission, and to do so within thirty days from the date of this order.

By the Commission,

WM. D. B. AINEY, *Chairman.*