

Philadelphia, January 15, 1930.

ANNUAL REPORT - 1929

The activities of the Bureau of Water during the past year measured to a pleasing degree under construction work, and the maintenance operations kept in step with the needs of the city. The operation of the new pumps at the Belmont Station, and advanced construction on the large steel conduit from the Torresdale Station, were outstanding features of the year's work. The continued efforts on the waste water survey have reduced the leakage in the Distribution System, and have corrected many violations of service abuses.

An average of 336 million gallons per day has been furnished to the City from the filter stations, equalling on a per capita basis, 158 gallons per day.

A sufficient quantity has been supplied for all demands, except during a short period of excessive temperatures, at which time the unauthorized opening of the City fire hydrants seriously reduced the supply at various locations.

The quality of the water has maintained its high standard, and the typhoid statistics show the remarkable low register of 0.66 deaths per one hundred thousand inhabitants.

Reference to the activities of the various branches of the Bureau follows in order:

River Patrol

The roving inspection of industrial plants on the banks of the Schuylkill River and its tributaries was continued with splendid results. This survey discloses by observation and laboratory tests any delinquency of plant operation, which may result in a drainage into the river or creeks of an effluent, which may contribute an odor or taste to the water. The field force is ably supported by the strength of the Special Commission, appointed for the purpose of cleaning up the Schuylkill River.

Installation of plant equipment in several cases is under way for correction of harmful effluents, and in other plants, corrective measures have been adopted. The work of this division for city service is of high value, and reflects throughout the entire water works system.

Pumping Stations

At the Torresdale Station there has been removed from the boiler house the useless units, consisting of boilers, water softener, feed water heater, and overhead bunker and auxiliary equipment, the space occupied to be assigned for the installation of new pumps of high capacity. Plant appearance has been improved by a restoration of walks and drives and the planting of shrubs and trees.

At the Lardner's Point Station a subway grating floor was completed in one of the engine houses, and in the second, progress towards laying has been made, while new metal roofs have been placed on the two boiler houses.

The reconditioning of the large pumping units has progressed satisfactorily, and the efficiency rating of the station has been improved to a marked extent, both in steaming and pumping units. The closing of a hole in a discharge main, worn through by erosion, and repaired by welding, was an unusual piece of work at this station.

At the Belmont Station the installation of two new motor driven pumps was completed with the attendant electrical equipment and the new discharge mains. Activities towards the motorization of the remaining pumps were started, and this construction work will be finished early in the coming year. At this station the rearrangement of drives and the planting of shrubbery has rendered an improved appearance.

At the Queen Lane Station useless wiring to operate equipment no longer of value has been removed, and extensive new wiring has replaced old, to a considerable extent, for stokers and the lighting circuit.

At the various high service stations repairs and replacements have been made, the work in itself being unimpressive, but of high value for efficient plant operation.

### Filters

The operation of all Filter Plants developed no unusual features during the year. The beds assumed their burden of bacteria and turbidity removal with satisfactory results.

At the Belmont Plant the construction of the coagulation basin was completed, and its service to produce a proper floc for the mechanical units has been of high value. Labor at this plant has been applied towards plant improvement of the appearance of grounds.

At the Queen Lane Plant an entire new set of ventilators were placed.

### Distribution

Building operations have contributed heavily towards additional service pipes in the gridiron system. The extensive work on the readjustment of the Pennsylvania Railroad Terminal has required the relocation and the addition of both service and trunk mains. This work will carry well into the coming year. The laying of the 95" and 72" steel main has involved numerous pipe crossings on which considerable time, study and labor have been applied.

Many valves of all sizes were repaired, and the replacement of broken or damaged hydrants exacted a heavy toll on the force of this division. Several breaks in large water pipes caused considerable property damage, and the failure of smaller mains numbered in excess of the average.

Added to the piping system during the year were forty-four miles of new mains, ranging from 93" to 6" in size, giving a grand total of two thousand, four hundred and eight miles now laid. In the Distribution System are incorporated forty-seven thousand, one hundred and ninety-three gate valves and nineteen thousand, eight hundred and eighty fire hydrants, there being added during the past year nine hundred and eight valves and two hundred and nineteen fire hydrants.

Further extension has been made to the High Pressure Fire Systems in the South Broad street area, and through a section of the congested area south of Spring Garden street. The mileage of pipe in this system totals close to sixty miles under the control of one thousand, three hundred and seventy-eight valves and supplying one thousand and twenty-five fire hydrants.

Meters

The total number of metered services are one hundred and eighty seven thousand, three hundred, and increase of nine thousand, six hundred and eighty-four for the year.

Repairs were made to eleven thousand, nine hundred and seventy meters at the City Shop and to three thousand, four hundred and twenty-eight on the premises of the consumer.

Revenue

There has been returned \$6,955,095.78 contributed from the following sources:

Water Rents:-

Flat rates -

Fixtures	\$2,673,469.28	
" Delinquent	<u>282,409.87</u>	\$2,955,879.15

Meter rates -

Current	3,440,271.10	
Delinquent	<u>248,648.29</u>	\$5,688,919.39

Water Pipe Searches	2,576.75	
Frontage - water pipe	160,763.08	
Specials	11,540.49	
New Services	35,819.00	
Meter Repairs	65,117.23	
Miscellaneous	<u>52,676.69</u>	
		<u>528,298.24</u>
		\$ 6,955,095.78

Financial

Salary and wages	\$ 1,744,879.93	
Material and equipment	<u>1,520,270.25</u>	\$3,265,150.18
Total		
Additions and betterments		<u>2,050,815.55</u>
Grand Total		\$5,295,965.73

Construction Work

Stations:-

- Torresdale - Removal of six (6) Heine Boilers, water softener, feed water heater, overhead coal bunker, feed pumps, etc. in house formerly the steaming plant of station.
- Lardner's Point - Completion of metal roofs on the two boiler houses.  
 Completion of a subway grating, main floor in No. 2 Engine House, and progress on the same type of floor in Engine House No. 1.  
 Concrete curbing was placed on the grounds facing Delaware Avenue, and new walks laid.
- Belmont - Completion of two (2) sixty m.g.d. electric driven centrifugal pumps with attendant electric equipment.  
 Completion of forty-eight (48) inch discharge piping to provide for increased pumpage.  
 Completion of tile flooring surrounding the new pumping units.  
 Replacing the three (3) wooden doors by steel construction.
- Queen Lane - Replacement and improvement of control wiring for stokers and the lighting circuit.
- Roxboro High - Completion of new panel installation to insure higher efficiency and more security of control in operation.

Filters:-

- Belmont - Completion of the coagulating basin, forming a part of the Mechanical Filter Plant.
- Queen Lane - The placing of steel frame ventilators on both sets of filter units.

Distribution:-

- Pipe Lines - Progressive work accomplished on the laying of the ninety-three (93) and seventy-two (72) inch steel conduit between Torresdale and Frankford.

Extensive work on six, eight and twelve inch service mains added in the East Germantown and Holmesburg Districts.

Alterations in existing pipe lines in the neighborhood of Twenty-first and Arch Streets, due to the construction of the new Pennsylvania Railroad Terminal.

**Fire Service Lines**

- Completion of an extension on South Broad street laid in conjunction with the construction of subway. Completion of mains on North Sixth, Callowhill, North Fourth and Brown streets.

**Waste Water Survey**

- Continued activity throughout an area bounded by Broad Street, Allegheny avenue and Girard avenue, and the Delaware River was registered.

**Reservoirs:-**

**East Park**

- Extensive repairs were made on the slopes of the West Basin.

**Contemplated Works - 1930**

**Stations:-**

**Torresdale**

- Installation of large capacity motor driven pumping units with the attendant electrical equipment.

**Lardner's Point**

- Continued work on the floor construction of Engine House No. 1. Continued work on the reconditioning of pumps and boilers. Construction of retaining wall on Levick street for confining coal pile.

**Belmont**

- Continued work on the motorization of the three (3) centrifugal pumps with the attendant electrical equipment. Removal of existing generators and foundations, and the completion of the floor throughout engine room. Erection of a housing over sluice gates of intake.

**Oak Lane**

- Installation of additional pumping equipment with the necessary discharge piping.

**Distribution:-**

Continued activity on the steel conduit and connections to a stage of completion.  
 Construction of a thirty (30) inch steel supply main delivering water from Lardner's Point system in a more direct line to Oak Lane Reservoir.

Readjustment of mains involved in the Pennsylvania Railroad Terminal project in West Philadelphia.  
Laying of a twenty-four (24) inch main to safeguard the supply to areas supplied from the Belmont High Service Station.

Extensive work on the eight (8) and twelve (12) inch lines for service throughout the City.

Further extension of the High Service mains into, and through, areas to be selected.

Continued activities on the water waste survey North of Allegheny avenue between the Delaware and Schuylkill Rivers.