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Philadelphia, January 20, 1928.

ANNUAL REPORT - 1927

The Bureau of Water has registered an impressive amount of work in the extension and improvement of water service and has provided additional security for the maintenance of the water supply at the initial stations and the purification plants. A waste water survey with activities centered generally in West Philadelphia has been of value in uncovering heavy underground leakage on the distribution system. Discoveries elsewhere in the southern section of the city between the Delaware and Schuylkill Rivers have added to the water saving in material volume.

An average of 345 m.g. per day has been supplied to the City from the filter stations which equals, on a per capita basis, 168 gallons per day.

The quality supplied to the consumer has been of a safe character, assumption of which is confirmed by the typhoid statistics which register 1.42 deaths per 100,000 inhabitants.

Reference to the activities confined in a general way to the various branches of the Bureau is listed.

River Patrol

Continued scrutiny has been directed upon the water of the Schuylkill and Delaware Rivers and their tributary streams, into which may be contributed the drainage of industrial plants.

Pumping Stations

At Shesmont work on interior of engine room has included a new floor, roof and wall painting. Revolving screens with house enclosure have been added for protection of intake, and for the heating of station

an oil plant was planned and is in operation.

At Torredale the erection of six (6) main pumping units and filter wash water pumps have been completed with an adjustment of electrical connections. An oil heating plant is under construction and a floor has been placed with interior painting of walls and roof.

At Queen Lane the installation of a new boiler has been completed and new stoker engines planned with setting begun.

At Lardner's Point basement floor in engine room have received attention and extensive repair work has been accomplished on the baffling of boilers and correction of stoker operation. Installation of generators and attendant wiring have added to the improvement of plant operation.

The High Service Stations at Torredale, Oak Lane, Roxborough and Queen Lane, are functioning under completed construction.

At Chestnut Hill and Belmont additional units have added to the capacity for high service and at the latter construction activities will carry into the coming year.

Filters.

At Torredale final filters the routine operation was augmented by activities on deep cleaning of beds. At the preliminary plant the rehabilitation progressed to a stage of 95 per cent. completion. The wash water tower was encased by a new brick shell.

At Queen Lane the cleaning and restoring of filtering material on the preliminary beds was accomplished and a contract let for similar work on the mechanical units. Machines were added to the chemical equipment to provide a pre-chlorinating dose to water passing to the mechanical units.

At Belmont the superstructure on the mechanical plant was erected and a contract executed for the furnishing and placing of gravel and sand.

The sand washing has been accomplished in a satisfying manner with the support of the Blaisdell machine equipment and the operation of beds has delivered a water of sufficient quantity and gratifying quality.

The loads imposed upon the filter plants are materially lessened by the application of a coagulant, the use of which during the latter part of the year, was in unusual demand on the Schuylkill due to the continued high content of suspended matter.

Distribution

Building operation on an extensive scale has required the laying of many service mains. West Philadelphia has offered a field for the addition of large mains and connecting links for an improved pressure and volume for service. The subway construction on South Broad street required an adjustment of the pipe system and new mains were laid to clear Broad st. for tunnel construction.

The water waste survey corrected considerable underground leakage and attention was directed by operating forces towards large valve repairs in cross-connecting underground chambers. A new roof was built on one valve chamber to provide additional access.

Added to the piping system during the year were 60 miles of new mains ranging from 48 to 6 inch in size, giving a total of 2,317 miles now in service. This total includes an 8" extension of 1,250 feet for the High Pressure Fire System.

Meters.

The total metered services number 186,555 there being added 18,343 meters during the year.

Repairs were made to 15,460 meters at the City Shop and 3,936 on the premises of the consumer.

Revenue

There has been returned \$7,070,452.17 contributed from the following sources:-

Water Rents:-

Flat rates -

Fixtures	\$2,905,115.69	
" delinquent	<u>205,438.12</u>	\$3,110,553.81

Meter rates -

Current	\$3,254,971.54	
Delinquent	<u>225,337.56</u>	\$3,480,309.10

Meter searches	5,783.50	
Frontage - water pipe	236,493.40	
Specials	9,897.44	
New services	58,275.50	
Meter repairs	55,275.50	
Miscellaneous	<u>63,914.12</u>	<u>479,639.26</u>
		\$7,070,452.17

Financial

Salary and wages	\$1,737,162.44	
Material and equipment	<u>1,639,834.65</u>	
	\$3,376,997.09	✓
Additions and betterments	<u>1,879,877.15</u>	
Grand Total		\$5,255,874.24

Construction Work

Stations:-

- Torresdale - Completion of motor drive pump installation. Construction of new floor and the painting of interior of engine room. Installation started on oil heating system.
- Lardner's Point - Baffle replacement in boiler plant; replacement of basement floor started in Engine House No. 2. Extensive repairs made on pump and discharge connections.
- Queen Lane - Completion of boiler installation; placement of motor drives for stokers.
- Belmont - Installation of feed pumps.
- Shawmont - Placement of station floor; installation of oil heating system; building house enclosure over intake screens.

High Services:-

- Chestnut Hill - Installation of additional pumps and piping with attendant electrical equipment.
- Belmont - Installation of additional pumps and piping.
- Queen Lane - Completion of pump installation and electrical equipment.

Filters:-

- Torresdale - Activities approaching completion on pre-filters. Erection of brick enclosure on wash water tower.
- Belmont - Continued construction on mechanical plant.
- Queen Lane - Erection of additional chemical apparatus; completion of the revamping of preliminary filters.

Pipe Lines:-

- 48" steel main from George's Hill to Belmont and Westminster Aves.
- 48" cast iron main on Juniper street and 48" and 36" steel mains on S. Penn Square in connection with the Broad st. Subway.
- ✓ 36" cast iron main on Woodland avenue from 65th to 69th sts.
- ✓ 50" cast iron main on 58th street from Woodland to Gibson aves.
- ✓ 30" cast iron main on Gibson avenue from 58th to 65th sts.
- 24" cast iron main from Belmont and Westminster aves. to 32nd and Spring Garden streets by way of Mulrow street.
- ✓ 24" cast iron main on 65th street from Gibson to Duist aves.
- 24" pumping main from Belmont High Service to existing main on Belmont avenue.
- ✓ 16" cast iron main on Klawood avenue from 65th to 69th sts.
- 8" High Pressure Fire Service on Sepviva street from Susquehanna to Hagert st.

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Reservoirs:-

Oak Lane:- Construction of retaining wall and sidewalk.

Contemplated Work - 1928.

The coming year should include activities in general as follows:-

Stations:-

- Torresdale - Installation of pumps
- Lardner's Point - Station roof and floor construction.
- Belmont - Installation of pumps and attendant work.
Dredging of Schuylkill river intake.
- Shawmont - Dredging of Schuylkill River intake.

Filters:-

- Torresdale - Improvement of filters with sand restoration.
- Belmont - Construction towards completion of mechanical plant.
- Queen Lane - Waterproofing of filter floors.

Distributions:-

- Pumping main from Torresdale.
- Service mains general
- Water waste surveys.