Page	Subject heading	Illustration Caption	Type of illustration
I	One hundred and third annual report of the Bureau of Water for the year ending December 31, 1904 and second annual message of John Weaver, Mayor of the City of Philadelphia with the annual report of Peter E. Costello, Director of the Department of Public Works, issued by the city of Philadelphia 1905	**Volume held in Philadelphia Water Department Archives Catalogue No. 2004.057.0164**	
III	Office of the mayor [List of staff]		
V	Second annual message [of John Weaver], Office of the Mayor, City Hall, April 3, 1905		
V	Finances		
XI-XVIII	Department of Public Safety		
XII	Bureau of Fire		
XIV	Electrical Bureau		
XVI	Bureau of City Property		
XVII	Bureau of Building Inspection		
XVII	Boiler inspection		
XVIII-XXXVIII	Department of Public Works		
XVIII		[List of Bureaus of the Department]	Table
XXII	Bureau of Highways		
XXIV	Bureau of Street Cleaning		
XXVI	Bureau of Surveys		
XXX	Grade Crossings		
XXXV	Bureaus of Water and Filtration		
XXXVIII	Department of Public Health and Charities		
XLII	Department of Supplies		
XLIV	Law Department		
XLV	Commercial Museums		
XLVII	Thomas W. Evans' Museum and Institute Society		
XLVIII	Citizens' Permanent Relief Committee		
XLVIII	Liberty Bell		
1	Annual Report of the Department of Public Works for the year ending December 31, 1904		

3	Officers of the Department of Public Works [List of staff]		
5-59	Eighteenth annual report of the Department of Public Works. Peter E. Costello, Director. January 3, 1905.		
6	City Ice Boats		
7	Bureau of Gas		
9	Bureau of Highways		
15	Board of Highway Supervisors		
17	Bureau of Lighting		
19	Bureau of Street Cleaning		
22	Bureau of Surveys		
24		Total length of sewers built and inspected during 1904	Table
24		Total length of sewers constructed to Jan. 1, 1905	Table
29		Summary of receipts and expenses of District Surveyors	Table
30		Summary of main, branch and private sewers built during the years 1903 and 1904	Table
30		Statement of work upon bridges during the years 1903 and 1904	Table
30		Statement of receipts	Table
31		Statement of expenditures	Table
31		Registry Division	Table
31	Bureau of Water [Summary report of Director of Department of Public Works]		
35		Recommendations for new boilers, engines, etc. at Belmont Pumping Station, Belmont High Service Station, Roxborough Station, Roxborough High Service Station	Table
38-40		Statement of the number and type of engines and their several aggregate capacities, at the various stations	Table
41		Statement of the location, date of completion, elevation, and capacity of the City's reservoirs [also: Height above city Datum]	Table
42		Statement of pumpage for the years 1903 and 1904 (Pumped to reservoirs, Equal to gallons pumped 100 feet high)	Table
42		Statement of pumpage for 1903 and 1904-Pumped by water power; pumped by steam power; largest quantity pumped in 24 hrs.; smallest quantity pumped in 24 hrs.	Table
42		Consumption 1903 and 1904; Cost of 1,000,000 gallons pumped 100 feet high	Table
43		Statement of pipe laid, pipe relaid, fire hydrants placed in position, substituted for defective hydrants, fire hydrants in use, new water attachments	Table
44		Statement of receipts and expenditures for the years 1903 and 1904	Table
45	Bureau of Filtration		
45		Expenditures from loans and direct taxation	

48		Quantities under construction of: excavation, embankment, puddle, concrete, brick masonry, rubble masonry, cast iron pipe, special castings, stop valves 4-inch to 72-inch, cast iron fixtures etc., miscellaneous steel, filter drains, filter gravel, filter sand, granolithic pavement (Lower Roxborough, Upper Roxborough, Torresdale Conduit, Belmont Filters, Torresdale Filters and Queen lane contingent, Oak Lane Reservoir, Lardner's Point [Lardners Point] Pumping Station contract no. 29, Intake at Torresdale, Preliminary filters at Torresdale, Preliminary filters at Belmont, Lardner's Point [Lardners Point] pumping station contract no. 68, Contract no. 17 pipe line, Contract no. 19 pipe line, Contracts nos. 28 and 72 pipe lines, Contract no. 66 pipe line, Contract no. 70 pipe line, Total when works are completed, Work during 1903, Work during 1904)	Table
49-57		List of contracts for the improvement, extension and filtration of the water supply	Table
58	Director's Office		
58		Work performed during 1904	Table
59		Summary of appropriations, expenditures, receipts, etc., of the Department of Public Works during the year 1904 and Totals for the year 1903	Table
59		Summary of expenditures of the Directors Office for the years 1903 and 1904	Table
61	Annual report of the Bureau of Water for the year 1904 [of F. L. Hand]		
63	Officers of the Bureau of Water	[Partial list] Chief: Frank L. Hand, General Superintendend: Allen J. Fuller, Chief Clerk: J. T. Hickman, Assistants to Chief: William Whitby, H. J. Johnson, Correspondence Clerk: P. DeHaven, Chief Draughtsmen: John E. Codman, Draughtsmen: Martin Murphy, James H. Hand, Jr., John R. Gorman, Charles B. F. Waller, Andrew P. Peterson, Joseph D. Austin, Assistants to Chief Clerk: Thomas Spence, A. H. Raven	
67	Annual Report of the Bureau of Water for the year 1904, Eighteenth annual report of the Bureau of Water, one hundred and third annual report of operations connected with the city water supply [of F. L. Hand], January 19, 1905		
71		Average pumpage per day at the several pumping stations, 1895-1904	Table
72		Table showing the rapid growth of important features pertaining to the Water Works - Increase of: Population, Average daily pumpage, Per capita consumption, Reservoir capacity, Pumpage capacity, Miles of pipe in service, Total collections of water rents, etc.. Total expenditures during each decade	Table
73	Meters		
74		Fairness of schedule rates (Percentage of consumers in three classes under "schedule rates" [based on number of fixtures]: Fairly charged, overcharged and undercharged)	Table
75		Estimated consumption of water by the three classes under schedule rates	Table
77	Consumption		
77		[Distribution Systems: Average daily consumption, average increase or decrease, percentage of increase or decrease]	Table
79	Revenue collected		

79		[Total collections for 1904 compared with 1903]	Table
79		Expenditures [Total expenditures 1904 compared with 1903]	Table
79		Net earnings of the Water Bureau [Total revenue from water rents, etc., Total expenditures for maintenance, Net profit earned by the Water Bureau]	Table
80	Extensions		
80		Belmont Pumping Station [Improvements needed immediately]	Table
80		Belmont High Service Station [Improvements needed immediately]	Table
80		Roxborough Station [Improvements needed immediately]	Table
80		Roxborough High Service Station [Improvements needed immediately]	Table
81	Fairmount and Flat Rock Dams		
83		General view of Fairmount Dam, showing general condition and breaks caused by freshet in the river	Photograph
83		View of no. 1 break	Photograph
83		View of no. 2 break	Photograph
83		View of no. 3 break	Photograph
83		Break in Flat Rock Dam as it appeared after the freshet in the river subsides	Photograph
83		View showing break, with one of the new cribs used to close the gap in place	Photograph
83		New dam partly finished in front of the old structure and view of cribbing constructed across the break in the old dam	Photograph
83		View of the new dam partly finished	Photograph
86	Fairmount Station		
86		Depth of water in the Upper Roxborough reservoir [From Feb. 22 (date of Flat Rock dam broke) to March 21 (date when the Worthington engines were supplied with water from the centrifugal pumps]	Graph
86		Water level in the river, in inches above and below the comb of the Flat Rock dam [from Feb. 22 to March 21]	Graph
86		Suction lift of the Worthington high-duty engines [from Feb. 22 to March 21]	Graph
87	Spring Garden Station		
87	Belmont Station		
88	Queen Lane Station		
89	Roxborough Station		
89	Frankford Station		
90	High Service Stations		
		Increase and decrease in the pumpage at the several High Service Stations	Table
90	Distribution		

92		Comparison of pumpage for the Delaware and Schuylkill Rivers for 1903 and 1904	Table
93		Volume and cost of pumpage for the years 1894 and [up to] 1904, inclusive [also: estimated population, gallons pumped per capita per day]	Table
94		Cost of raising 1,000,000 gallons 100 feet during 1903 and 1904	Table
95-96		Comparison of the nominal, maximum, minimum and average daily pumpage for 1903 and 1904	Table
97	[Overview of appendices]		
98-116	Appendix A, Report of Chief Clerk, January 19, 1905 [of J. T. Hickman]		
99-110		Detailed expenditures of the Bureau for 1904	Table
111		Statement of the amount expended by the Department of Supplies for this Bureau during the year 1904. Taken from the books of the city controller (amount appropriated, expended and merging, recapitulation)	Table
113-115		List of miscellaneous receipts for the year 1904	Table
116		Receipts from operations of the Bureau of Water as reported by the receiver of taxes [Schedule rates, Penalties, Delinquent, Penalties, New Connections, Meters current and delinquent, Ferrules on New Connections, Searches, Pipe frontage, Specials, Collected by City Solicitor, Totals]	Table
117-124	Appendix B, Report of the General Superintendent submitting tables of expenses, pumpage and consumption of water during 1904, December 31, 1903 [of Allen J. Fuller]		
118		Total pumpage from rivers [1903, 1904, Billion gallons per month]	Diagram
118		Steam pumpage [1903, 1904, Billion gals. per month]	Diagram
118		Coal consumed [1903, 1904, 1000 tons per month]	Diagram
118		Consumption [1903, 1904, Billion gals. per month]	Diagram
118		Temperature [1903, 1904]	Diagram
119		Quantity and prices of coal consumed during 1904 [Pumping Stations, High Service Stations]	Table
120		Belmont High Service Station, 1904 [numbers concerning the engines - capacity, running time, gallons pumped, coal, percentage of ashes, oils (cylinder and engine), mean water pressure per square inch, less mean pressure on suction pipe, gallons raised 100 feet per pound of coal]	Table
121		Roxborough High Service Station, 1904 [data concerning the engines - capacity, running time, gallons pumped, coal, percentage of ashes, oils (cylinder and engine), mean water pressure per square inch less mean pressure on suction pipe, gallons raised 100 feet per pound of coal]	Table
122		Mount Airy Pumping Station, 1904 [numbers concerning the enginges - capacity, running time, gallons pumped, coal, percentage of ashes, oils (cylinder and engine), mean water pressure per square inch less mean pressure on suction pipe, gallons raised 100 feet per pound of coal]	Table

123		Chestnut Hill Pumping Station, 1904 [numbers concerning the enginges - capacity, running time, gallons pumped, coal, percentage of ashes, oils (cylinder and engine), mean water pressure per square inch less mean pressure on suction pipe, gallons raised 100 feet per pound of coal]	Table
124		Frankford High Service Station, 1904 [numbers concerning the enginges - capacity, running time, gallons pumped, coal, percentage of ashes, oils (cylinder and engine), mean water pressure per square inch less mean pressure on suction pipe, gallons raised 100 feet per pound of coal]	Table
124		Current expenses and work of the pumping stations for the year 1904 [Pumping stations and High service stations: Pay of employees at the station, Coal consumed, Lubricants, Lighting, Repairs to boilers and machinery, Miscellaneous Supplies and small stores, Total expenses, Total gallons pumped, Lift in feet including suction and friction, Gallons pumped 100 feet high suction and friction included, Cost of raising one million gallons 100 feet, Percentage of work done at each station]	Table
124		Fairmount Pumping Station, 1904 [numbers concerning the turbines - capacity, running time, gallons pumped by each turbine, total pumpage of each month, average pumpage per day, oils (cylinder and engine)]	Table
124		Spring Garden Pumping Station, 1904 [numbers concerning the engines - capacity, running time, gallons pumped, coal, percentage of ashes, oils (cylinder and engine), mean water pressure and mean suction lift in pounds per square inch, gallons raised 100 feet per pound of coal]	Table
124		Belmont Pumping Station, 1904 [numbers concerning the engines - capacity, running time, gallons pumped, coal, percentage of ashes, oils (cylinder and engine), mean water pressure and mean suction lift in pounds per square inch, gallons raised 100 feet per pound of coal]	Table
124		Queen Lane Pumping Station, 1904 [numbers concerning the engines - capacity, running time, gallons pumped, coal, percentage of ashes, oils (cylinder and engine), mean water pressure and mean suction lift in pounds per square inch., gallons raised 100 feet per pound of coal]	Table
124		Roxborough Pumping Station, 1904 [numbers concerning the engines - capacity, running time, gallons pumped, coal, percentage of ashes, oils (cylinder and engine), mean water pressure and mean suction lift in pounds per square inch., gallons raised 100 feet per pound of coal]	Table
124		Frankford Pumping Station, 1904 [numbers concerning the engines - capacity, running time, gallons pumped, coal, percentage of ashes, oils (cylinder and engine), mean water pressure and mean suction lift in pounds per square inch., gallons raised 100 feet per pound of coal]	Table
124		Total gallons pumped and consumed during 1904 [Months, Pumpage (Fairmount, Spring Garden, Belmont, Queen Lane, Roxborough, Frankford, Total, Average per day), Consumption (Stored in reservoirs at end of each month, Total, Average per day), Supplementary pumpage (Belmont, Roxborough, Roxborough Annex, Mt. Airy, Chestnut Hill, Frankford, Total, Average Daily), Total pumpage and supplementary pumpage, Average total pumpage per day, Percentage of pumpage, Total steam pumpage, Total water pumpage]	Table
124		Description of pumping machinery of the Bureau of Water, Philadelphia, 1904 [Pumping station, Designated number of engine or turbine, Types of engines, Designated capacity, Steam engines and pumps (High pressure cylinder, Int. pressure cylinder, Low pressure cylinder, Air pumps, Forcing pumps), Pumping station, Type of boilers, Steam boilers]	Table

124		Pumpage diagram for the year 1904 [also: inches of rainfall, inches on dam, temperature degrees F.]	Diagram
125-160	Appendix C, Report of the Assistant in Charge of Distribution, January 15, 1905 [of W. Whitby]		
125	Mains		
125		New work [by Bureau of Water, by Bureau of Filtration]	Table
126		Comparison of conditions relative to the distribution 1903-1904	Table
126		Meters	Table
126		Number of dwellings and principal appliances for the use of City water [1903, 1904]	Table
127		Repairs	Table
127		Abandoned	Table
127		Fire hydrants	Table
128		Drills for attachments	Table
129		Service, supply mains laid during 1904, First district	Table
130		Service, supply mains laid during 1904, Second district	Table
131		Service, supply mains laid during 1904, Third district	Table
132		Service, supply mains laid during 1904, Fourth district	Table
133		Service, supply mains laid during 1904, Fifth district	Table
134		Service, supply mains laid during 1904, Sixth district	Table
135		Service, supply mains laid during 1904], Seventh district	Table
136		Alterations to water pipes on the line of the Market Street Subway	Table
136		Recapitulation of work on water pipes [New pipe or feet added, pipe used but adding nothing to feet in ground, total handled, pipe cut off and abandoned: purposes for which used, size in inches, total in feet and pounds]	Table
136		Recapitulation by districts [New pipe or feet added, Pipe used, but adding nothing to feet in ground, Total handled, Pipe cut off and abandoned: size in inches, feet, pounds]	Table
137		Pipe laid by contract by the Bureau of Filtration during 1904 [Purposes for which used, Size in inches, Total]	Table
138		Total feet of pipe in use December 31, 1904 [Size in inches, Total in use Dec. 31, 1903, Extensions and relays during 1904, Deductions during 1904, Total in use Dec. 31, 1904]	Table
138		Statement of the number of fire hydrants by districts and wards during 1904 and total previous thereto	Table
139		Recapitulation of fire hydrants set, renewed and removed	Table
140-141		Fire hydrants by wards	Table
141		Fire hydrants by purveyors' districts	Table
142		Attachments, etc., made by the purveyors, in accordance with permits issued by the Bureau of Water, arranged by districts [Districts: New attachments, Shut off by permit, Work done without permit]	Table
143		Permits issued during the year 1904	Table
144-145		Premises supplied and appliances [fixtures] in use January 1, 1905	Table
146		Repairs to mains, stops, and fire hydrants, also stops and fire hydrants removed during 1904	Table

146		Check valves put in	Table
147		Table "A." Service attachments laid to the curb (on streets to be paved or repaved) by the Bureau of Water	Table
147		Account of iron stop boxes, new stops and check valves for 1904	Table
148-151		Total number of stops and valves in the City arranged by districts	Table
151		Number of valves raised in the several districts during the year 1904 [Districts, Barton, Viney, Single Gate]	Table
152		Number of complaints and examinations during 1903 and 1904 [Months, Hydrants, Service pipes, Wash paves, Spigots, Water closets, Horse troughs, No leaks, Total]	Table
153-154		New meters set [Occupant, location, business, date when set, name of meter, size, total, cubic feet consumed, meter rents, remarks]	Table
154		General summary of meter operations for the year 1904	Table
154		Miscellaneous work on meters during the year 1904 [Size: Meters repaired; meters used in service; meters packed; meters tested, examinations; miscellaneous]	Table
155-157		Schedule of pipe and special castings ordered, accepted and rejected during the year 1904	Table
158		Attachments made and delivered to the Districts during the year 1904 [Districts: Attachments made and delivered, Feet of lead pipe]	Table
159-160		Distribution expenses during the year 1904, including expenses of Main office, Purveyors' districts, and meter shops	Table
161-167	Appendix D, Report of the operations at the construction and repair shop, Bureau of Water, during the year 1904, January 12, 1905 [of Jas. H. Dean, Superintendent of Shop]		
162		Merchandise [Drafts] [by types of materials and supplies]	Table
162		Merchandise [Credits] [by districts, locations, project types]	Table
164-165		Inventory, January 1, 1905	Table
166		Principal articles delivered to the districts and works	Table
167		Principal articles manufactured during 1904	Table
168-182	Appendix E, Report of the Chief Draughtsman for the year 1904, January 11, 1905 [of John E. Codman]		
168		Drawings made during 1904 [Subjects and numbers]	Table
172	Report on the hydrographic work for the year 1904 [of John E. Codman]		
173		Comparison of the rainfall flowing off in the Schuylkill river, with the run off on the Perkiomen and Neshaminy creeks [1898-1904]	Table
175		[Overview of the tables, which accompany the report]	Table
176		Table II. Rain storms exceeding in rate 0.25 inches per hour as recorded by the automatic rain gauge at Philadelphia, for the year 1904	Table

176		[Table I]. Monthly precipitation on sundry watersheds compared with U. S. Weather Bureau observations at Philadelphia. U.S. Weather Bureau, Water Bureau Auto, Water Bureau Frankford Pumping Station, Pennsylvania Hospital, Shawmont, Lebanon, Reading, Pottsville, Browers, Hamburg, Seisholtzville, Spring Mount, Easton, Moorestown, West Chester, Ottsville, Quakertown, Smith's Corner, Point Pleasant, Lansdale, Forks of Neshaminy, Doylestown	Table
177		Table III. Rain storms exceeding in rate 0.25 inches per hour as recorded by the automatic rain gauge at forks of the Neshaminy, for the year 1904	Table
178		Table IV. Rain storms exceeding in rate 0.25 inches per hour as recorded by the automatic rain gauge at Spring Mount, for the year 1904	Table
179		Table V. Inches of rainfall flowing in the Perkiomen, Neshaminy and Tohickon Creeks. Watersheds, Area in miles, Percentage of total area (Woodland, Cultivated, Flats, Roads), Average for 21 years, 1883-1904	Table
180		Table VI. Average annual yield of sundry watersheds to October 1, 1904. Watersheds, period covered years, area in miles, average rainfall in inches, average rainfall flowing off in inches, per cent flowing off, average annual yield in gallons, average daily yield in gallons, average yield in cubic feet per second per sq. mile of drainage area, average yield in cubic feet per second per sq. mile of drainage area for each inch of rainfall	Table
180		Table VII. Comparative daily stream flow, 1903 and 1904. Watersheds, Area of watershed, Maximum gallons (per day, per sq. mile), Date, Minimum gallons (per day, per sq. mile), Date	Table
181		Table VIII. Precipitation and stream flow on Schuylkill [Oct. 1903 - Dec. 1904]	Table
182		Table of computed daily flow of the Schuylkill River at Fairmount dam. Showing flow over flashboards in cubic feet per second, height of water above or below top of flashboards in inches, and computed pumpage, leakage and lockage from the pool [by month][note * means below top of flashboards]	Table
182		Table IX. Precipitation and stream flow on Perkiomen, Neshaminy and Tohickon watersheds [Oct. 1903 - Dec. 1904]	Table
182		Stream flow 1904 - Perkiomen Creek at Frederick	Graph
182		Stream flow 1904 - Neshaminy Creek below Forks	Graph
182		Stream flow, 1904 - Tohickon Creek	Graph