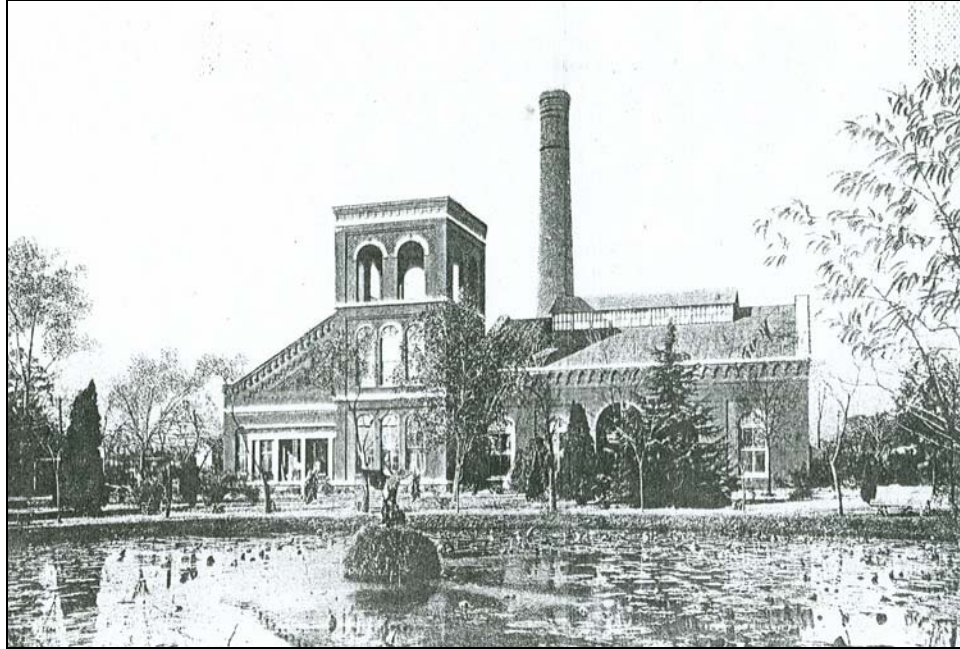


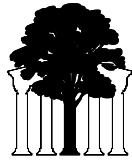
CITY OF SAVANNAH WATER WORKS PUMP HOUSE



**Gwinnett Street and Stiles Avenue
Savannah, Georgia**

Luciana M. Spracher

Cover Image:
Savannah Water Works Pump House, n.d.
VM 1361PC Georgia Historical Society Postcards
Box 7, Savannah Public Buildings
Georgia Historical Society, Savannah, Georgia



February 2005

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Savannah Water Works Pump House, c.1893, taken by M. Ed. Wilson
Thomas Gamble, Jr. *A History of the City Government of Savannah, Ga.,
from 1790 to 1901* (Savannah: City of Savannah City Council, 1900) 338.

BRIEF CONSTRUCTION HISTORY

During his annual report for 1890, Mayor John Schwarz recommended “to Council that action be taken for the construction of new water works, leaving the present works intact for use in case of an emergency” (at the time, the needs of the City far exceeded the production capability of the old water works system). James Manning, Superintendent of the Water Works, seconded the Mayor’s suggestion. In addition, Manning specifically included in his report the need for more substantial housing surrounding the boilers in the pumping station or pump house (see *Appendix: Superintendent of Water Works Annual Reports, 1890-1894* for yearly updates of the planning, construction and completion of the water works system).¹

The boilers are in general good condition and have required but slight repairs during the year. The brickwork, however, which surround them still continues to give trouble and great expense, for the reason that it was not properly built in the beginning and consequently will be a trouble and an expense to the end of the chapter....

*It is to be hoped that in the erection of the new works, now in contemplation, everything from the beginning will be first-class in every particular, and that the boilers especially be set as nearly as possible independent of each other and suspended by iron girders in addition to their bearing on the brickwork.*²

¹ *Annual Report of John Schwarz, ... for the Year Ending December 31, 1890...* (Savannah: The Morning News Print, 1891) 12.

² *Annual Report 1890*, 110.



Old Water Works Pump House, c. 1883-1892³

Manning's report relayed the plan outlined in May 1890 by Civil Engineer Thomas T. Johnston, of Chicago. Johnston, who had just finished designing a new water works in Memphis, Tennessee, was brought to Savannah to inspect the old water works system and make suggestions for its improvement.

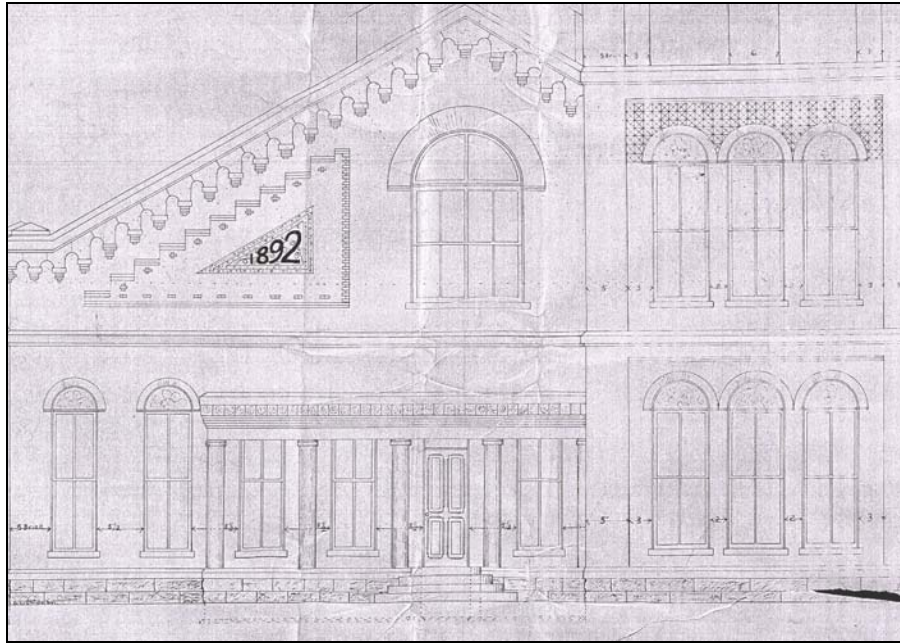
...his proposition was to erect an entire new plant on the Springfield Plantation and build a brick conduit from the present works to the new plant, cut off the wells in use, to increase the flow, bore more wells at intervals along the line of conduit and convey all the water from all the wells through such conduit to a cistern, to be located near the new pump house, from whence the pumps would draw and force it to a stand pipe, higher up in the city.⁴

Based on Johnston's suggestions, the Water Committee recommended to Council the construction of a new water works "with at least two fifteen million gallon pumps of the latest approve[d] pattern with all the necessary connection and attachments be erected at these works and that the work be proceeded upon with the least possible delay." However, after considering

³ MS 1375 William E. Wilson Photograph Collection, Box 1, Item 434, Georgia Historical Society, Savannah, Georgia.

⁴ *Annual Report 1890*, 112.

Johnston's plan and consulting with City Engineer W. J. Winn, Council decided that it was "too extensive and expensive for the present."⁵



Savannah Water Works Pump House, East Elevation,
drawn by Thomas T. Johnston, Consulting Engineer and G. L. Christy, c. 1891-1892⁶

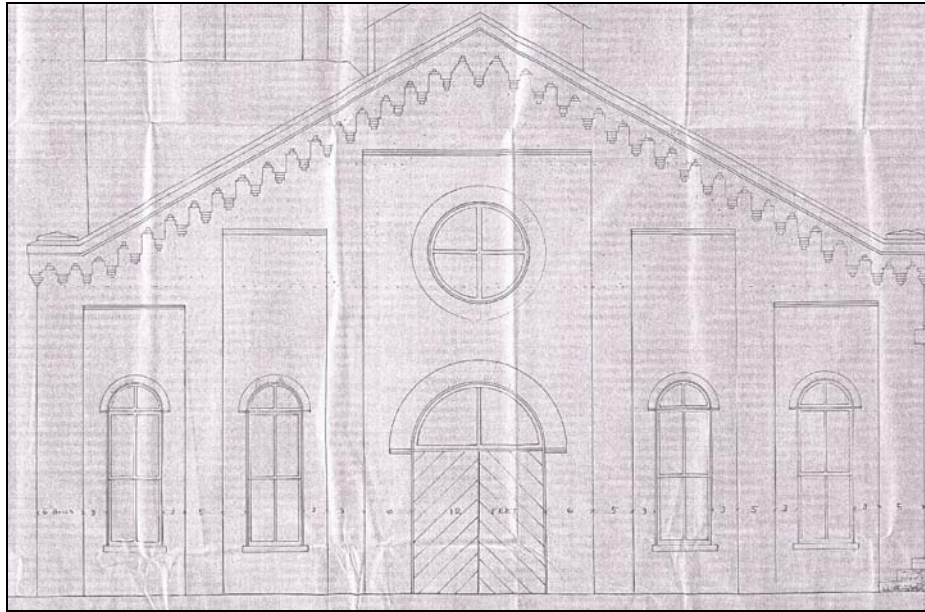
In closing his 1890 report, James Manning appealed to Council to continue plans for a new water works:

*And I very respectfully suggest, that it would be prudent and wise to avoid any delay in setting on foot active preliminaries for the erection of the new works. That an expert hydraulic engineer be selected, and that his services be secured to give early attention to the matter, as consulting engineer; and he be requested to come to the city to get the work properly formulated and arranged.*⁷

⁵ *Annual Report 1890*, 112; City of Savannah, Georgia City Council Minutes (14 May 1890) 145-146, Clerk of Council's Office, City Hall, Savannah, Georgia.

⁶ City of Savannah, Georgia City Council Meeting Papers-Contracts, Box CON7 [0115-002-21], Folder 27, Contract #371, Diagram #2. City of Savannah Research Library and Municipal Archives, City Hall, Savannah, Georgia.

⁷ *Annual Report 1890*, 121.



Savannah Water Works Pump House, West Elevation,
drawn by Thomas T. Johnston, Consulting Engineer and G. L. Christy, c. 1891-1892⁸

During the year 1891, Council finally approved plans for a new water works on a new site, with the details entrusted in the hands of the Water Committee. Mayor John J. McDonough expressed complete confidence in the abilities of the Water Committee, who were:

*...carefully protecting the interests of the City and securing for the public as economically as possible with good and substantial work a system of new water works with the increased supply so much needed to secure the comfort and protect the health of our community now and for years to come.*⁹

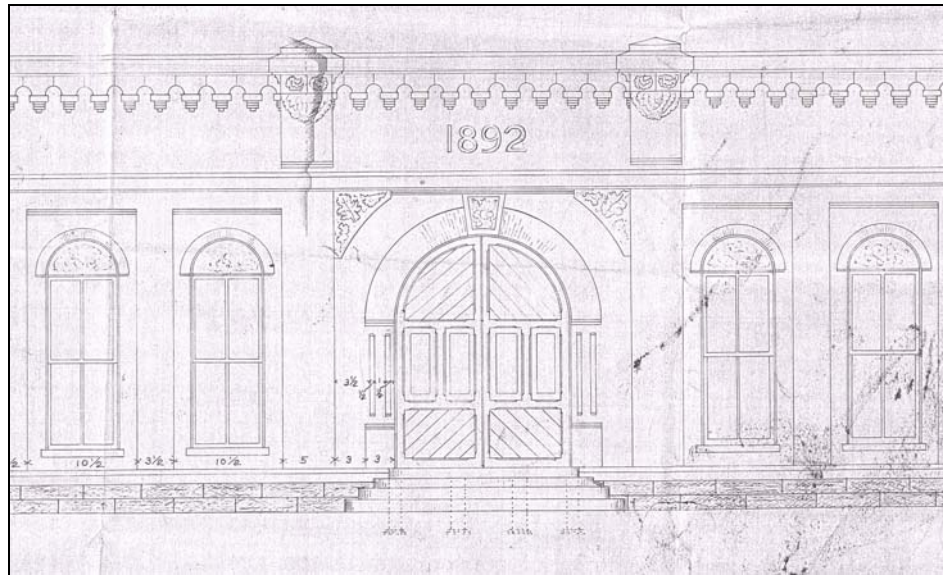
In the first year of the project, \$53,264.73 was spent by the City towards engineering plans and surveys, pipe contracts, and land purchases. The City retained Thomas T. Johnston as a consulting engineer to prepare plans and specifications for the pumping machinery and boilers. The plans included a new pumping station and boiler house as well. A new site for the water works was selected on the west side of the old Springfield Plantation, at

⁸ City Council Meeting Papers-Contracts, Box CON7 [0115-002-21], Folder 27, Contract #371, Diagram #5.

⁹ *Annual Report of John J. McDonough, ... for the Year Ending December 31, 1891...* (Savannah: The Morning News Print, 1892) 14.

the intersection of Gwinnett Street and Stiles Avenue. Thirty-one acres were purchased by the City from the Savannah Brick Manufacturing Company for \$17,050, with a little over eight acres set aside for the new water works.¹⁰

*The site selected is favorably and conveniently situated for the purpose and the character of the work contemplated. It being near the city and far enough removed from any contaminating influences.*¹¹



Savannah Water Works Pump House, South Elevation,
drawn by Thomas T. Johnston, Consulting Engineer and G. L. Christy, c. 1891-1892¹²

¹⁰ *Annual Report 1891*, 13, 52-53, 140-142.

¹¹ *Annual Report 1891*, 142.

¹² City Council Meeting Papers-Contracts, Box CON7 [0115-002-21], Folder 27, Contract #371, Diagram #3.



Savannah Water Works Pump House, South Elevation, c. 1961¹³

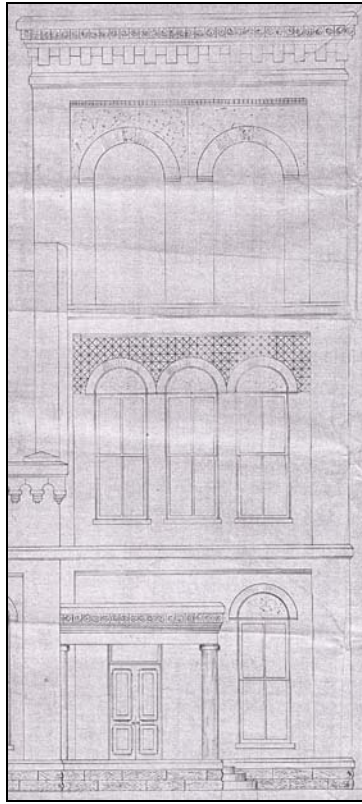
Once the Water Committee approved Johnston's plans, bids were advertised for the various machinery and pipe elements beginning in May 1891 and work began under the local supervision of W. R. Curtis, Civil Engineer. The contracts were awarded to firms representing several cities on the east coast, in addition to Savannah (for specifics see *Appendix: Superintendent of Water Works Annual Report for 1891*). The contract for the foundation of the pumping station or pump house (awarded separately from the construction of the actual building) was awarded to W. F. Chaplin of Savannah and included excavation and construction of the chimney. Chaplin did not begin work until almost the end of 1891, in December.¹⁴

*The foundations or sub-work of the pumping station and chimney has been commenced by the contractor, he has quite a good force of hands at work, but as the contract was awarded only a short time he has done only some excavating.*¹⁵

¹³ VM 1361PH Georgia Historical Society Photograph Collection, Box 27, Folder 3, Item 5150, Georgia Historical Society, Savannah, Georgia.

¹⁴ *Annual Report 1891*, 143-146, 148.

¹⁵ *Annual Report 1891*, 147.



Savannah Water Works Pump House, South Elevation,
drawn by Thomas T. Johnston, Consulting Engineer and G. L. Christy, c. 1891-1892¹⁶

Throughout 1892, construction continued on the water works project. On December 9, 1892 at 9:25am one of the new pumps was first put into operation. While some of the details were still being finished, like the pump house, the citizens of Savannah began enjoying the effects of the new water system.¹⁷

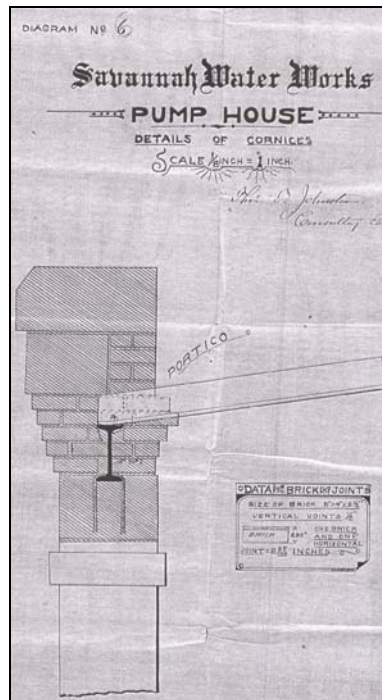
*Savannah may congratulate herself, not only as having a pure water supply, but also with one exception, as being the only large American city having a supply so remote from danger at all times, especially in time of epidemics. It is a blessing from which she can scarcely be robbed, even by accident.*¹⁸

¹⁶ City Council Meeting Papers-Contracts, Box CON7 [0115-002-21], Folder 27, Contract #371, Diagram #3.

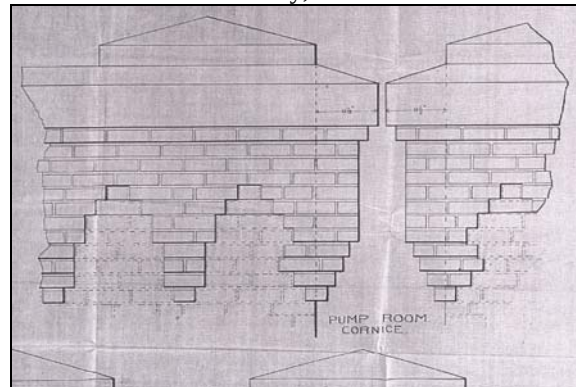
¹⁷ *Annual Report John J. McDonough, ... for the Year Ending December 31st, 1892...* (Savannah: The Morning News Print, 1893) 19.

¹⁸ *Annual Report 1892*, 20.

W. F. Chaplin finished sub work on the pumping station at a total cost to the City of \$35,698.99. He was then awarded the contract for completing the upper works of the pump house for \$24,366 on December 20, 1892. Chaplin finished construction of the building in 1893 and a new roof was put on by W. H. Converse for \$4,851.25. The total cost of all parts of the new water works system was \$410,660.21, roughly \$65,000 of which went to the sub work, building and roof of the new pump house.¹⁹



Savannah Water Works Pump House, Cornice Details, drawn by Thomas T. Johnston, Consulting Engineer and G. L. Christy, c. 1891-1892²⁰

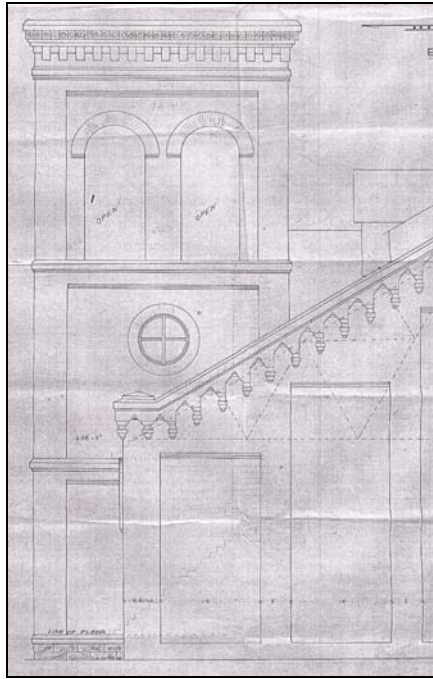


*The chimney is 118 [?] foot [feet] in height and stands upon a foundation 23 [?] feet square.... The boiler room is 83 x 75 feet and the engine room 124 x 75 feet. The building will be of red pressed brick, with granite and terra cotta trimmings and will be quite a handsome and imposing structure.*²¹

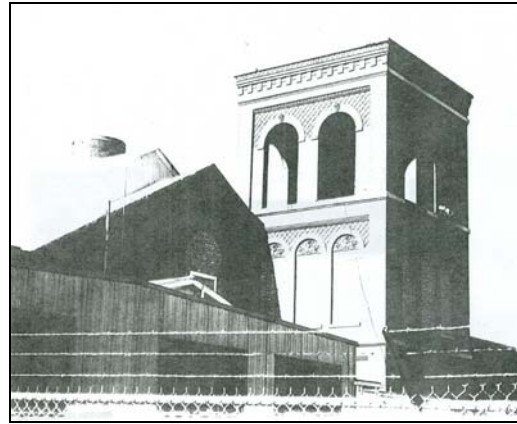
¹⁹ Annual Report 1892, 18, 164; Annual Report of John J. McDonough,... for the Year Ending December 31, 1893... (Savannah: Braid & Hutton, Printers and Bookbinders, 1894) 14, 54.

²⁰ City Council Meeting Papers-Contracts, Box CON7 [0115-002-21], Folder 27, Contract #371, Diagram #6.

²¹ "To Turn on the Water," Savannah Morning News (21 November 1892) 8:1.



Savannah Water Works Pump House,
North Elevation, drawn by
Thomas T. Johnston, Consulting Engineer
and G. L. Christy, c. 1891-1892²³



Savannah Water Works Pump House, c. 1961²²

On the 26th of March 1893, the engines and machinery at the old water works were shut down “as the new works were then ready to be permanently used.” In his yearly report, Superintendent Manning pointed out two improvements that still needed to be accomplished on the water works property:²⁴

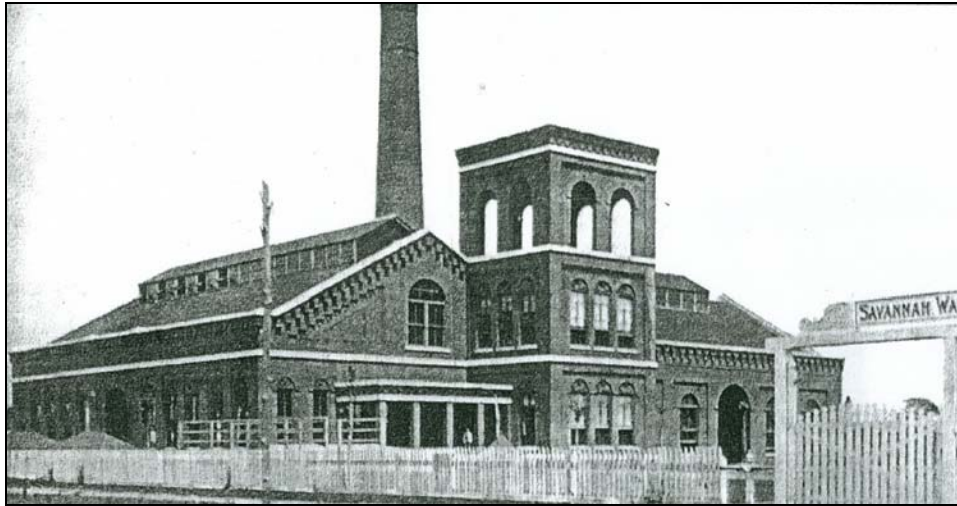
The engine and boiler rooms being very large, it is found to be too spacious to properly or advantageously light them with lamps, an appropriation being expected in the budget of the coming year to put in an electric light plant. I would suggest that it be provided at as early a day as possible after the amount is available, in order to insure comfort and convenience and better care of the property.

²² VM 1361PH, Box 27, Folder 3, Item 5148.

²³ City Council Meeting Papers-Contracts, Box CON7 [0115-002-21], Folder 27, Contract #371, Diagram #4.

²⁴ *Annual Report 1893*, 142-143.

*Owing to multitudinous details in providing for and conveniently and successfully running the new works since starting up, the improvement of the grounds has received little or no attention. A survey has been made and a contour plan drawn, and it is expected that the matter of laying out the grounds in walks and drives, with ornamental features to be determined upon will be taken in hand as soon as possible.*²⁵



Savannah Water Works Pump House, c. 1895²⁶

The following year, Manning updated Council as to the progress on the above two points:

The buildings, being new, are in good order. Some work has been done on the interior to complete them, which was not included in the original contract.

*The grounds have been laid out and leveled, drives and walks made and a basin dug, a fountain of home manufacture placed in the centre, which is intended to be only a temporary fixture, as it is hoped an amount sufficient to place a more ornamental fountain in its place will be appropriated.*²⁷

²⁵ Annual Report 1893, 149.

²⁶ David E. Kelley, *Building Savannah* (Charleston: Arcadia Publishing, 2000) 121.

²⁷ Annual Report of John J. McDonough, ... for the Year Ending December 31, 1894... (Savannah: Braid & Hutton, Printers and Publishers, 1895) 163.

In addition, the Water Works employees planned to remove “such plants and shrubbery as are ornamental and valuable [from the old water works] to the grounds of the new works at as early a day as possible.”²⁸

*I beg leave to again call attention to the fact that the pumping station cannot be properly lighted by oil lamps, and urge the great necessity of putting in a dynamo for the purpose of lighting by electric lamps.... I believe the argument has been advanced that the water works has been run for years by lamp light. Of course, this is true, but they never occupied a building of the dimensions of the one now in use, and no man can keep up one of these engines (which work must be done while it is in motion, and is as apt to be necessary at night as at anytime) with a lamp in one hand and a wrench in the other hand.*²⁹

An electric lighting plant was not installed in the water works buildings until 1896.³⁰

The final report on the new water works system was submitted by W. G. Cann, Chairman of the Water Committee, to City Council on January 2, 1894 stating that the “City has been supplied from these works exclusively since April last [1893].”

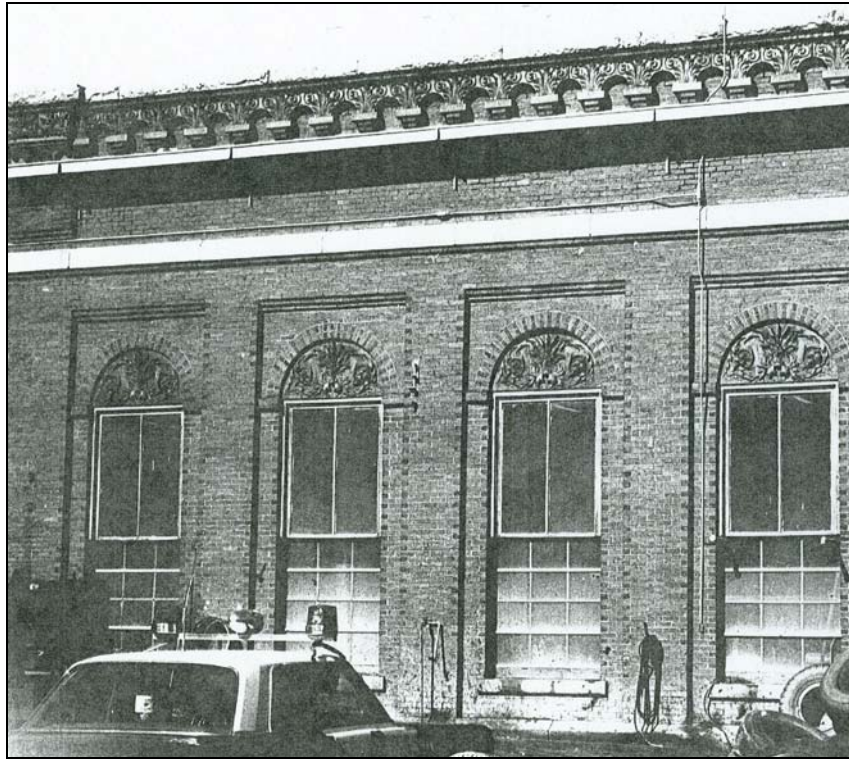
*We now beg to present you one of the best and most complete water works of its size in the country. An abundant supply of artesian water[,] duplicate pumping machinery of the most improved and economical pattern[,] a forcing main of ample size not only for our immediate but future wants[,] entering our city near the center[,] furnishing a uniform and desirable distribution[,] and commodious buildings well arranged and of sufficient size to permit the addition of double the present pumping capacity.*³¹

²⁸ Annual Report 1894, 164.

²⁹ Annual Report 1894, 170.

³⁰ Thomas Gamble, Jr. *A History of the City Government of Savannah, Ga., from 1790 to 1901* (Savannah: City of Savannah City Council, 1900) 381.

³¹ City Council Minutes (2 January 1894) 200-201.



Water Works Pump House, c. 1961³²

³² VM 1361PH, Box 27, Folder 3, Item 5149.

RECOMMENDATIONS FOR FURTHER RESEARCH

Archival records relating to the Water Works and the Water Committee of City Council are available at two repositories, the Georgia Historical Society and the City of Savannah Research Library and Municipal Archives. Discussion and decisions based on the work and recommendation of the Water Committee can also be traced through the City Council Minutes.

The Georgia Historical Society cares for a large collection of the City's older records, including those of the Water Department. MS 5600WO, City of Savannah-Water Operations Department Records include twenty-eight volumes dating from 1865 through 1942 (see *Appendix: Finding Aid for Water Department Records* for more information on this collection). Two volumes relate specifically to the construction of the new Water Works between 1891 and 1893.

MS 5600WO-10 Water Works Letter Book (21 October 1891-6 April 1893) contains copies of correspondence regarding the progress of construction, materials, employee payroll, etc. The correspondence is between W. R. Curtis, Engineer in Charge, Thomas Johnston, Chief Engineer, the City Treasurer, and members of the Water Committee, among others. The copies are carbon copies on a tissue paper and are very delicate, preventing photocopying. The first half of the volume is very hard to read since the ink has blurred and faded. This volume probably contains a wealth of information. However, it would require a great deal of time for one to read through.

MS 5600WO-20 Water Works Daily Report Book (16 January 1892-21 March 1893) contains daily progress reports on the construction of the Water Works, including charts and inventories, arranged chronologically. The reports track progress on the various elements of the Water Works (conduit, wells, pumping station, etc.) by tracking in increments of time and material (labor hours, yards of concrete laid, bricks laid, etc.). Like the Letter Book, this volume is fragile and cannot be photocopied. However, it is for the most part legible if one has time set aside to read it carefully.

The City of Savannah Research Library and Municipal Archives, located in City Hall, cares for the City Council Meeting Papers including papers of the Water Committee (Record Series 0115-001, Boxes #WAT 1-4 [0115-001-A393 through 0115-001-A396]). The Water Committee Papers include petitions made to Council and referred to the Water Committee (1866-1880, 1910-1932), and miscellaneous reports, papers and correspondence of the Water Committee (1868-1880, 1883, 1897, 1901-1930). This collection does not include records dating from the construction period of the water works system or pump house on Stiles and Gwinnett streets. However, they may prove useful if the desire to learn more about the history of the Water Committee arises (see *Appendix: Finding Aids for Water Department Records* for more information on this collection).

The City Council Meeting Papers also include Contracts (Record Series 0115-002). Within the Contract series, a set of plans and drawings for the pump house exists (Box #CON 5 [0115-002-21], Folder 27, Contract #371, 6 sheets). The six sheets include elevations of the four façades, details of the brick work, and a floor plan prepared by Consulting Engineer Thomas T. Johnston and drawn by G. L. Christy [spelling?] circa 1891-1892. Details of these drawings have been used in this report. However, due to size, only a portion of the drawings were represented here.

The City of Savannah City Council Minutes and Indexes are housed in the Clerk of Council's Office in City Hall. They are indexed by subject and proper name (for example "Water Works" or "Johnston, Thomas, Engineer"). For the period 1890 through 1894, the indexes were reviewed for entries falling only under "Water Works." The information found in the indexes has been used in this report. However, in only three cases were the minutes referred to from the index entry. Further investigation into the planning and completion of the water works project should include a review of the actual City Council minutes. The highlights of the Water Committee's work and the construction of the water works system were also outlined in the City's annual reports (see *Appendix: Superintendent of Water Works Annual Reports, 1890-1894*) and it was deemed unnecessary to thoroughly examine the minutes at this time.

APPENDICES

SUPERINTENDENT OF WATER WORKS ANNUAL REPORTS
1890-1894

ANNUAL REPORT
OF
JOHN SCHWARZ,
MAYOR OF THE CITY OF SAVANNAH,
FOR THE
YEAR ENDING DECEMBER 31, 1890,
TO WHICH IS ADDED THE
TREASURER'S REPORT
AND
REPORTS OF THE DIFFERENT DEPARTMENTS.

SAVANNAH:
THE MORNING NEWS PRINT.
1890.

REPORT OF SUPERINTENDENT WATER WORKS.

Hon. John Schwarz,

Mayor:

SIR—I respectfully submit the following report of the Water Works Department, for the year ending December 31st, 1890:

The number of gallons of water pumped during the year, as shown by the record, has been two billion, four hundred and twenty-six million, six hundred and forty-six thousand, five hundred and sixty (2,426,646,560) gallons, being nine million, thirty-seven thousand, three hundred and forty-nine (9,037,349) gallons less than for the year 1889. From these figures it would appear that the consumption of water for the past year has not been as great as heretofore. Such, however, is not the truth, and is accounted for by the fact that during the month of February the small engine was in operation while the large one was being repaired and did not pump by upward of thirty million (30,000,000) gallons as much as the general monthly average.

ENGINES AND MACHINERY.

The much needed repairs to the large engine was put off during the year 1889 until the winter months, naturally expecting more or less rain at that season, by which it was hoped the demand for water would in some measure be decreased and that the small engine would be able to furnish a reasonable supply to the city. But the drouth continuing, it was de-

termined by the Committee on water, to temporize no longer, but to thoroughly overhaul and rebuild the large engine at once. In accordance with this decision, after carefully examining the small engine and being satisfied that it was in the best possible order. The large one was stopped and the small one started at work on Saturday, January 25th. On Monday, January 27th, the large engine was taken down, parts of which were distributed amongst the different machine shops of the city and the repairs pushed as expeditiously as was consistent with good workmanship. The repairs were completed, and on Monday, March 3d, it was started for trial and worked admirably. After a few hours running each day to adjust the parts and properly set up the joints, it was started at work permanently on Thursday, March 6th, in as good order, in my opinion, as it was possible to put it, and has been running constantly since; with the exception of stops of forty-four (44) hours at different times, whenever it was necessary for the purpose of examining valves and repacking rods.

While the repairs to the large engine was in progress and the small one in use, the small engine gave no trouble whatever, but performed an amount of labor far beyond that for which it was ever intended. Yet severely criticised by an "indulgent public" because it did not accomplish more.

Both engines are now in good order and are in need of no visible repairs.

THE 'DONKEY, OR BOILER FEED PUMPS,

Three (3) in number, are all in good working order. The two smaller pumps have been rebuilt within the past few months and the large one is en-

tirely new, having been scarcely used at all. In addition to its use for feeding boilers it can be also used for fire protection, it being fitted with a suction from the river and furnished with two lines of hose, each seventy-five (75) feet long, which are kept always connected and ready for immediate use and tested once every month.

BOILERS.

The boilers are in general good condition and have required but slight repairs during the year. The brickwork, however, which surround them still continues to give trouble and great expense, for the reason that it was not properly built in the beginning and consequently will be a trouble and an expense to the end of the chapter.

Early in January the centre wall, between the two large boilers, and upon which both rest, crushed down, thereby disabling both and leaving the works entirely dependent upon one set of boilers for fourteen days, a state of affairs very undesirable and that should be guarded against when boilers are first erected, for the performance of duties as arduous and imperative as those required in the present case. It is to be hoped that in the erection of the new works, now in contemplation, everything from the beginning will be first-class in every particular, and that the boilers especially be set as nearly as possible independent of each other and suspended by iron girders in addition to their bearing on the brickwork. The extra first cost will be money well spent and can be estimated, but the never ending expense of the hereafter repairs cannot be computed, especially where machinery must be kept in continual operation. The

necessary repairs to the present brickwork for ten months ending January 31st, for bricklaying and material alone amounted to the sum of eleven hundred and eighty-five dollars and eighty-five (\$1,185.85) cents, besides a large amount for other labor that cannot be accurately arrived at.

BUILDINGS AND GROUNDS.

The buildings are in good order, the roofs have been repaired where needed and painted. The inside of the engine room and boiler house have been thoroughly painted and whitewashed.

The grounds have received as much attention as could be given and now present a better appearance than formerly. A part of the land has been plowed and sown in oats in the early part of the year.

The weeds and grass kept cut down and the jungle of undergrowth and old trees along the lower border of the enclosure cut away and all the roots and stumps dug up and burned. The fences have been repaired and whitewashed and are in good order.

ARTESIAN WELLS.

In consequence of the increasing demand for water in the city. The twenty-three artesian wells in operation had for sometime failed to yield an adequate supply and the deficiency was made up of river water, which gave general dissatisfaction.

To obviate this it was decided to sink some of the wells at the present works to a depth of one thousand feet, hoping by so doing to increase the flow. Consequently the boring on the deep twelve inch well on Springfield plantation was stopped on February 3d, at a depth of fifteen hundred and fifty (1,550) feet,

and the machinery moved from there to the works, where boring was commenced on a ten (10) inch well on February 12th and continued until a depth of one thousand and nine (1,009) feet was reached on April 9th, but the increase in the quantity of water gained was so trifling compared to the expense of sinking them that this plan was abandoned.

Several suggestions were offered and plans proposed to improve the water supply, both in quantity and quality. Among others, a plan advanced by Civil Engineer T. T. Johnston, of Chicago, Ill., who was invited to come here and assist in settling the matter, he having had large experience in water works building and artesian wells supply.

Mr. Johnston came here and looked over the situation and his proposition was to erect an entire new plant on the Springfield Plantation and build a brick conduit from the present works to the new plant, cut off the wells in use, to increase the flow, bore more wells at intervals along the line of conduit and convey all the water from all the wells through such conduit to a cistern, to be located near the new pump house, from whence the pumps would draw and force it to a stand pipe, higher up in the city.

Mr. Johnston, as Chief Engineer, had just completed at Memphis, Tenn., a system of water works upon this plan, and said to be one of the best in the country. But after careful surveys, and estimates being made by Col. W. J. Winn, City Engineer, this plan was considered somewhat too extensive and expensive for the present. Finally, at a special meeting of City Council on the 11th of June, it was decided to proceed at once to bore two or more 10-inch wells for immediate relief at the present works, and as soon

as those were finished and sufficient water obtained to warrant the river being shut off, a number of wells should be bored on Springfield Plantation, to furnish water for a fifteen million gallon engine, and it, with the necessary attachments and connections, be contracted for, and erected with all possible despatch. Accordingly, on or about June 24th, a contract was signed with Mr. James Mulligan, a well-borer, of this city, to bore two or more 10-inch wells at the present works, each of which he agreed to complete in about forty days. But on account of improper tools he was unable to finish the contract, and abandoned it. It was then required of his sureties to complete it. They gave the contract to Mr. E. F. Joyce, of St. Augustine, Fla., who commenced work on well number 25, as soon as he could move his machinery upon the ground, and completed that well at a depth of five hundred and two (502) feet. This well was connected to the system on December 29th, and increased the supply of artesian water to such an extent that it was unnecessary to continue the use of the river water any longer, and the river connection was accordingly shut off the same day.

Mr. Joyce is now at work on well number 24, which it is expected will be finished in a very short time, when it is hoped the supply of pure artesian water will equal the capacity of the pumps. In making the necessary alterations to allow the increased quantity of water, furnished by the two new wells, to reach the pumps, the suction main had to be enlarged and extended. This involved the laying of three hundred and twenty (320) feet of twenty-four (24) inch pipe, and eight hundred and eighty

(880) feet of sixteen (16) inch pipe, a total length of twelve hundred (1200) feet of suction main, together with all necessary valves and connections.

The artesian wells in operation at this time are:

3 ten (10) inch wells.
20 six (6) inch wells.
1 four (4) inch well.

Total, - 24

And one ten (10) inch well in process of boring, which, when completed and connected, will make a total of twenty-five (25) wells.

The experiment of "shooting" or "torpedoing" the wells for the purpose of increasing the flow was tried. An agreement with Mr. Elisha Gregory, of New York, to do the work being made. He came on in July, and torpedoed three (3) wells. It is done by sinking a tin case or shell charged with explosives to the bottom of the well, which is ignited and fired by means of a fuse. The result of the experiment was not sufficiently successful to warrant the farther prosecution of the work.

RESERVOIR.

The reservoir, or more properly the stand pipe, has been scraped and painted, and the tower on which it rests has been patched on the outside, where the plastering was off, and a good coat of color wash put on. It has been striped in stone, and is now in good condition, presenting a neat and respectable appearance. The pipes, steps and railing on inside and the balcony on outside have been put in good repair and painted. The work on the reservoir has been much

needed, as the neglect to properly care for it would result in great injury.

FIRE HYDRANTS.

Nineteen (19) fire hydrants have been put in along the line of the extensions of mains.

There now being three hundred and seventy-eight (378) in the city, under the care and control of the department. A thorough and close examination of all the hydrants has been made, and it is found that quite a number of those that have been in position for many years, are very badly rusted, and the stems to valves liable to break when being used.

It is very necessary that these should be taken out and replaced with new hydrants.

All of them have been repacked and oiled, and are in serviceable condition.

PUBLIC OR FREE HYDRANTS.

The free hydrants have been no expense during the year, requiring only to be packed and some trifling repairs done.

CESSPOOLS AND SEWERS.

The cesspools have been regularly flushed as also the sewers. The large number of the cesspools has made it necessary to flush an increased section of the city daily, and consequently the consumption of water for this purpose is very great, and being added to every year. This service is, however, very necessary, for sanitary reasons, and must be performed.

VALVES.

Four (4) additional valves have been placed on the extensions of mains, located as follows:

- 1 on Henry street at West Broad st.....6-inch valve.
- 1 on Randolph street, at Broughton st...6-inch valve.
- 1 on Randolph street, at Liberty st.6-inch valve.
- 1 on First street, at Habersham st.6-inch valve.

All the old valves have been examined and thoroughly cleaned and oiled, the boxes renewed, where they were found decayed or worn out, and new covers placed on those needing them.

EXTENSIONS.

The following extensions have been made:

- On Anderson street, from Cuyler to Cemetery street..... 204 feet 6-inch pipe.
- On Henry street, from West Broad to Cemetery street.....1,008 feet 6-inch pipe.
- On Duffy street, from Burroughs to Cemetery street..... 600 feet 6-inch pipe.
- On Randolph street, from Broughton to Liberty street..1,584 feet 6-inch pipe.
- On Perry street, from Randolph to McAllister street..... 432 feet 6-inch pipe.
- On Jackson street, from Randolph to McAllister street..... 432 feet 6-inch pipe.
- On Oak street, from West Broad to Fields street..... 288 feet 6-inch pipe.
- On First street, from Habersham to Bull street.....1,440 feet 6-inch pipe.
- On Herndon street, from Price to East Broad street..... 696 feet 6-inch pipe.

6,684 feet

Which extensions, added to the length of the mains, make a total of thirty seven and a quarter miles and four hundred and four ($37\frac{1}{4}$ miles and 404) feet.

EXTENSIONS NEEDED.

- On Harris street, from Price to East Broad street..... 700 feet.
- On Charlton street, from Price to East Broad street..... 700 feet.
- On Gaston street, from Price to East Broad street..... 700 feet.
- On Bolton street, from Habersham to East Broad street..... 950 feet.
- On Waldburg street, from Price to East Broad street..... 700 feet.
- On New Houston street, from Lincoln to East Broad street.....1,300 feet.
- On Henry street, from Lincoln to East Broad street.....1,300 feet.
- On East Broad street, from Jones to Taylor street..... 400 feet.
- On East Broad street, from Bolton to Anderson street.....1,600 feet.
- On Harris street, from Tatnall to West Broad street..... 800 feet.
- On Berrien street, from Tatnall to West Broad street..... 900 feet.
- On Wayne street, from Montgomery to West Broad street..... 350 feet.
- On Gaston street, from Tatnall to West Broad street..... 800 feet.
- On Lumber street, from New to Bryan street.....1,600 feet.

On Pine street, from Farm to Lumber street.....	300 feet.
On Harrison street, from West Broad to Farm street.....	1,000 feet.
On Margaret street, from Farm to Lumber street.....	300 feet.
On William street, from Farm to Lumber street.....	300 feet.
On Jones street, from Guerard to West Boundary street.....	600 feet.
On Purse street, from Harris to Walker street.....	800 feet.
On Walker street, from Purse to West Boundary street.....	750 feet.
On Wilson street, from Roberts to Huntingdon street.....	200 feet.
On Huntingdon street, from West Broad to Wilson street.....	800 feet.
On New Houston street, from West Broad to Burroughs street.....	400 feet.
On Waldburg street, from West Broad to Burroughs street.....	400 feet.
On Cemetery street, from Gwinnett to Anderson street.....	1,800 feet.
On Duffy street, from Drayton to Abercorn street.....	400 feet.
	20,850 feet.

LEAKS.

Notwithstanding the great age of the main pipes in the older part of the city, and their being originally lighter in weight than those put in later, there has

been no leaks in the mains, the pipes sustaining the pressure much better than could be expected.

RIVER WELL AND HOUSE.

The river well and house covering it are in very bad order. The foundation timbers of the house are giving away from dry rot, causing the house to careen over. The flood gates to the well are entirely useless for the purpose of shutting the river water out, and requires renewing, as it is now necessary to dry out the well, in order to repair the foot valve of the river suction, which has become much worn from long use.

This, in turn, will necessitate the building of a coffer dam, to keep the river water back while the gates are being repaired.

The wharf is also very much in need of repairs, and it is intended to have the work on it and the well done as soon as it is known with a warrantable certainty that the river water can be dispensed with.

RECOMMENDATIONS.

I beg leave to again call attention to the exposed condition of the forcing main, leading from the works to the city, and respectfully suggest that the authorities of the Central Railroad Company be conferred with, and that they be requested to take some action looking to the immediate protection of the main from damage by their trains. There are two places which are very much exposed and liable to serious damage every hour in the day and night. One place, where the railroad tracks cross the pipe at Musgrove Creek, and the other at a point further to the northwest, where several tracks cross it at a drain ditch cut by the county engineer. At either point an accident to

their trains, such as the derailment of a car or engine, would more than likely crush through the main, and such a break of the only pumping main would leave the city without water for an indefinite period.

There are other points of danger but are not of so much importance, which can and will be attended to by the department. But the Central Railroad Company have repeatedly agreed and promised to protect the main at the points mentioned, and have made no move in the matter up to this time. I deem it my duty to call attention to its importance, in this report.

There is at the works six hundred feet of old fire hose, purchased from the Fire Department about a year ago, and which was considered as unfit and unreliable for use by that department, and which, when the test is made every month, in order that we may ascertain that everything is in working order, some part of the hose will burst. This is conclusive proof that it would not be of much service should there be need of it in a fire. I would, therefore, recommend the purchase at an early day, of five or six hundred feet of good fire hose, for the protection of the works.

It will be seen by the list of streets given, on which there are no water mains, that there is a large portion of the city yet unaccommodated, and without facilities for obtaining water, except at considerable expense to the property owners. By extending the mains on those streets it will become easy to introduce the water in premises, and afford a more general fire protection. Many of the streets named are in the old parts of the city and covered with buildings, and others are in localities rapidly being built upon. I would very respectfully recommend that those streets for which petitions have been filed, on which exten-

sions are asked, be given consideration at an early date.

In conclusion, I would say that while the present machinery is in good order and is working well, it is being forced beyond its legitimate capacity, and cannot reasonably be expected to keep in repair, or to last as long as if it were not so overloaded. And I very respectfully suggest, that it would be prudent and wise to avoid any delay in setting on foot active preliminaries for the erection of the new works. That an expert hydraulic engineer be selected, and that his services be secured to give early attention to the matter, as consulting engineer; and he be requested to come to the city to get the work properly formulated and arranged. Bearing in mind from the beginning that the lowest priced article, be it men or material, is not by any means the cheapest.

Very respectfully submitted,

JAMES MANNING,

Superintendent.

ANNUAL REPORT

OF

JOHN J. McDONOUGH,

MAYOR OF THE CITY OF SAVANNAH,

FOR THE

YEAR ENDING DECEMBER 31, 1891,

TO WHICH IS ADDED THE

TREASURER'S REPORT

AND

REPORTS OF THE DIFFERENT DEPARTMENTS.

SAVANNAH:
THE MORNING NEWS PRINT.
1892.

73. Gordon's Wharf.
 74. S., F. & W. Ry. Wharf.
 Telephone 404 Engine No. 1.
 Telephone 259 Engine No. 2.
 Telephone 309 Engine No. 3.
 Telephone 100 Engine No. 4.
 Telephone 128 Engine No. 5.

The following directions are given to key holders.

1. To give an alarm, open the door, pull the hook to the bottom of the slot *once only*, and then close the door.
2. Do not pull the hook if the fire bells are ringing or if the small bell in the box is striking, as that indicates that an alarm has already been given.
3. Be particular to remain at the box until the arrival of an officer of the Fire Department or a piece of apparatus so that you can direct them where the fire is.

Very respectfully,

W. D. CLAIBORNE,
Superintendent Fire Alarm.

REPORT OF SUPERINTENDENT OF WATER WORKS.

Hon. John J. McDonough,
Mayor.

Sir:—In accordance with the regulation of the ordinances, I respectfully submit the annual report of the condition and workings of the Water Works Department of the City, for the year ending December 31, 1891.

The gallons of water pumped during the year, as shown by the record, has been two billion, three hundred and ninety-four million, six hundred and forty-five thousand, six hundred and eighty (2,394,645,680) gallons.

ENGINES AND MACHINERY.

During the month of August it became necessary to stop the large engine for repairs, and the small pump was put in service during the time occupied in having the work done, which occupied a period of nine (9) days, with this exception the large pump has been running continuously, save an occasional stop of a few hours at a time, for the purpose of keying up, repacking stuffing boxes or renewing valves.

The repairs on the small engine consist chiefly of a new set of valve studs and tightening valve seats in pump ends, which has given trouble on

several occasions by working loose. At present there are no repairs needed, that is to be seen, on either engine.

DONKEY OR BOILER FEED PUMPS.

The donkey or feed pumps are all in good order and condition, not one of the three pumps requiring any, or but very slight repairs during the year.

BOILERS.

The boilers and their settings are in good condition, as far as can be seen, and the expenses for repairs have been nothing during the year, except for the natural wear and tear.

BUILDINGS AND GROUNDS.

The buildings: pumping station, office, etc., are all in very good order. The grounds have been improved and kept in as clean and good condition as possible within the small expenditure upon them. Oats are sown in spring and during the other months of the year they are kept closely mowed and free from the growth of weeds. With the work done they present a much better appearance than in previous years. The fencing is in good repair and has been well whitewashed.

ARTESIAN WELLS AT WORKS.

Well No. 24, ten-inch bore, was completed at a depth five hundred and five (505) feet, and connected to the system on January 27, this well

making a total of twenty five artesian wells. Sizes as follows:

4 ten (10) inch wells.
20 six (6) inch wells.
1 four (4) inch well.

—
Total, - - 25

With the addition of the No. 24 well the quantity of water secured was very materially increased, and it was thought that no more would be required for at least some time. But as the year advanced and the warm season set in, the demand for water increased to such an extent, that although the engines were working up to their full speed, they failed to furnish a satisfactory pressure in the city, and many complaints were heard from those who could not obtain a supply of water in the upper stories of the high buildings. From observations and approximate measurements, it was evident that the engines were drawing more water from the wells near the engine house than from those at a distance, and to ascertain with certainty an exact and actual survey and measurement was made with instruments on June 13th, and found a variation in elevation of water in the different wells on the main suction line of nine (9) feet, that is to say, number one (1) well, which is close by the engine house, was pumped nine (9) feet below the level of number twenty-five (25) well, which is sixteen hundred (1,600) feet farther away. This shows that with the arrangement of the present system additional wells would be of little service, because it would be necessary to locate them at a still greater distance, and the

pumps would not draw the water from them. The lack of water from the wells caused the engines to labor greatly and pound badly. And was the principal cause of the stop of the large engine in August for repairs. This great labor and pounding of the engines continued until the fifth (5th) of November, when, fearing greater injury to the machinery, and as a last resort, the river water was turned on to the pumps, which gave some relief. And it is the only means, in my opinion, by which a satisfactory supply of water can be obtained, until the new works now being constructed, or a part at least, can be put in operation. The large engine, upon which the supply depends, will not work with any reasonable degree of safety without the aid of the river water.

RIVER WELL AND WELL HOUSE.

The river well has been thoroughly cleaned out, and the repairs so much needed at the time of the last report have been done during the year, the foot valve placed in good order and the house has had new sills put in, and all decayed parts have been renewed. The wharf has been repaired in the portions entirely gone, or very much decayed, and can be used with safety for the present.

FORCING MAIN.

The force main leading from the works to the City, has always remained uncovered, and greatly exposed to accident, at crossings of the railroad tracks. Attention was called to its condition in last report, and authority was given to have this

remedied. Work was begun upon it at once, and I am glad to say it is now well secured from any ordinary accident. Heavy timbers have been built over it and fastened to piling. The railroad defraying the expenses of a part of the work and the city a part.

RESERVOIR.

The reservoir or stand-pipe is in very good condition, no work of any kind has been done on it during the year.

FIRE HYDRANTS.

The fire hydrants have been quite expensive the past year, a large number had been found to be in very bad condition from age. Thirty-two (32) hydrants have been taken out and replaced with new, and others repaired, and are in condition for use for a few years longer.

Twenty-nine (29) hydrants have been added to the system on the line of extension of mains, making a total of four hundred and seven (407) fire hydrants.

PUBLIC OR FREE HYDRANTS.

The public or free hydrants are all in good order at this time. Seven have been taken out on account of having been broken and worn, and replaced with new.

FLUSHING CESSPOOLS AND SEWERS.

The cesspools have required flushing for longer hours, and a great quantity of water has been used

for the purpose of keeping them in good condition, on account of the cesspools being used as a receptacle for slop water in many localities. All are in very good condition at this time.

VALVES.

Fifteen (15) new valves have been put in on the line of extensions of mains, and also for the purpose of reducing the size of the districts, and are located as follows:

1 on Lincoln St. at Taylor St.....	6-inch valve.
1 on East Broad St. at Taylor St.....	6-inch valve.
1 on East Broad St. at New Houston.....	6-inch valve.
1 on Walker St. at Wilson St.....	6-inch valve.
1 on Jones St. at Wilson St.....	6-inch valve.
1 on Jones St. at Guerard St.....	6-inch valve.
1 on Taylor St. at Whitaker St.....	6-inch valve.
1 on Gaston St. at Whitaker St.....	6-inch valve.
1 on Gordon St. at Whitaker St.....	4-inch valve.
1 on Jefferson St. at Bryan St.....	8-inch valve.
2 on Congress St. at Jefferson St.....	8-inch valve.
2 on State St. at Whitaker St.....	8-inch valve.
1 on State St. at Abercorn St.....	8-inch valve.

15

All the valves have been examined, oiled and cleaned and are now in good order.

EXTENSIONS OF MAINS.

The mains have been added to very greatly the past year and the city is now very nearly entirely supplied with facilities for the obtaining water in all

premises and protected by fire hydrants. Mains have been laid on the following streets:

On Harris street, from Price to East Broad street.....	606 feet 6-inch pipe.
On East Broad street from Jones to Taylor street.....	294 feet 6-inch pipe.
On East Broad street from Bolton to Anderson street..	1,458 feet 6-inch pipe.
On Davis street from Price to East Broad street.....	606 feet 6-inch pipe.
On Bolton street from Habersham to East Broad street.....	900 feet 6-inch pipe.
On Waldburg street from Price to East Broad Street.	648 feet 6-inch pipe.
On New Houston street from Lincoln to East Broad street.....	1,224 feet 6-inch pipe.
On Duffy street from Price to East Broad street.....	636 feet 6-inch pipe.
On Duffy street from Drayton to Abercorn street....	324 feet 6-inch pipe.
On Duffy street from East Broad to R. R. track.....	216 feet 6-inch pipe.
On Henry street from Lincoln to East Broad street..	1,272 feet 6-inch pipe.
On Gwinnett street from East Broad to Railroad track...	300 feet 6-inch pipe.
On Jones street from Guerard to West Boundary....	492 feet 6-inch pipe.
On Walker street from Wilson to West Boundary....	732 feet 6-inch pipe.
On Gaston street from Tattall to West Broad street.	744 feet 6-inch pipe.

On Maple street from West Broad street.....	240 feet 6-inch pipe.
On Oak street from West Broad street.....	408 feet 6-inch pipe.
On Jefferson street from Bryan to State street.....	938 feet 8-inch pipe.
On State street from Jefferson to Abercorn street.....	1,600 feet 8-inch pipe.
Total.....	13,638 feet.

The eight (8) inch main has added very much to the better fire protection afforded the business houses on Broughton street, the fire hydrants attached, being placed within easy reach, and may be used instead of those on the small four inch main on Broughton street. This new main is also connected to the twelve inch main on Congress, and the twelve inch main on Whitaker street, and to the sixteen inch main on Abercorn street.

These extensions of the mains make a total of thirty-nine and seven-eighths miles and one hundred and eighty-two feet (39 $\frac{7}{8}$ miles and 182 feet) of pipe of all sizes in the city.

LEAKS.

Another year has been added to the age of the old mains, and although many breaks would naturally be expected, there has been only two. One on the alley running from Zubly street to Harrison street, in the four (4) inch pipe, and one on Bay street near Jefferson street in the six (6) inch pipe, this last was caused by the heavy jar of the falling walls of the Guckenhimer building during the fire, which destroyed that building.

The expenses as shown in statement for Water Works includes the bills passed in Superintendent's office for ordinary expenses and expended figures, and does not exhibit any amount expended on new Water Works, or artesian wells on Stiles Avenue for new Water Works, and as will be seen, has been kept well within the appropriation for the year.

RECOMMENDATIONS.

As mentioned before in relation to the water mains, the city is very nearly fully covered by the extensions made during the year. However there remains a few streets on which there are no mains, though the water is obtained from the streets on either side, and nearly all are accommodated. A better fire protection would be afforded, if the pipes were laid in those streets and one or two unfinished streets were completed. Those named below should receive attention when extensions are contemplated.

Harrison street from West Broad to Farm street.
Harris street from Tatnall to West Broad street.

Berrien street from Tatnall to West Broad street.

Waldburg street from West Broad to Burroughs street.

New Houston street from West Broad to Burroughs street.

Huntingdon street from West Broad to Wilson street.

Charlton street from Price to East Broad street.
East Boundary street from Broughton to Liberty street.

The building of new works having been commenced, there are no matters for recommendation at this time. In concluding this report, I would ask to be allowed to express my gratification for the uniform kindness extended to myself and the employees of the Department by Your Honor and the members of the Board, and the Committee in immediate control. And also testify to the good conduct and attention to their duties of the employees who assist me in the direction and care of the Department.

Very Respectfully submitted,
JAMES MANNING,
Superintendent.

	January	February	March	April	May	June	July	August	September	October	November	December
Running Account	\$ 1,404 92	\$ 678 27	\$ 691 60	\$ 864 38	\$ 788 19	\$ 1,002 96	\$ 509 17	\$ 669 81	\$ 1,387 80	\$ 1,239 30	\$ 749 08	\$ 843 99
Repairs Account	\$ 164 18	\$ 593 90	\$ 655 90	\$ 440 84	\$ 664 87	\$ 1,800 87	\$ 348 37	\$ 2,047 81	\$ 908 78	\$ 488 41	\$ 385 63	\$ 385 63
Connections Account.	\$ 4 00	\$ 4 75	\$ 10 25	\$ 5 75	\$ 7 75	\$ 90 52	\$ 6 00	\$ 10 50	\$ 9 20	\$ 4 50	\$ 6 25	\$ 6 25
Cesspools Account	\$ 16 50	\$ 4 50	\$ 10 25	\$ 3 50	\$ 3 50	\$ 3 50	\$ 18 75	\$ 19 00	\$ 1 60	\$ 48 69	\$ 12 83	\$ 12 83
Hydrants Account			\$ 13 84	\$ 38 36								
Incidentals Account	\$ 5 00	\$ 53 55	\$ 3 25	\$ 3 00	\$ 11 00	\$ 1 75						
Improvement of Grounds Account	\$ 187 09	\$ 246 78	\$ 3 62	\$ 9,351 09	\$ 1,113 89	\$ 187 37						
Extensions of Mains Account	\$ 814 91	\$ 1,864 23	\$ 10 84									
Artesian Wells at Works Account	\$ 1,077 08											
Map Account						\$ 16 63						
Salaries Account	\$ 1,118 50	\$ 1,072 00	\$ 1,114 00	\$ 1,102 00	\$ 1,114 00	\$ 1,105 10	\$ 1,215 50	\$ 1,114 00	\$ 1,189 50	\$ 1,198 50	\$ 1,141 50	\$ 1,168 50
Totals.	\$ 4,743 02	\$ 4,462 22	\$ 2,532 66	\$ 12,072 25	\$ 4,636 20	\$ 3,040 96	\$ 1,987 79	\$ 2,091 88	\$ 4,880 81	\$ 3,906 27	\$ 2,444 44	\$ 2,585 92

EXPENSES OF THE WATER WORKS, 1891, AS PER BILLS PASSED IN SUPERINTENDENT'S OFFICE.

REPORT ON NEW WATER WORKS.

SAVANNAH, GA., December 31st, 1891.
Hon. John J. McDonough,

Mayor :

SIR—In accordance with instructions received from your Honor, I herewith present a report on New Water Works, to accompany the report on the workings of the department on the report of water supply. The erection of new works having been undertaken during the year, the preparation consumed much of the time, but some progress has been made which will be shown in this report. The number and character of contracts awarded for furnishing material and construction and the advancement of them. Also including the expenditures on New Water Works account to date.

The pressing necessity of immediate action upon the matter of providing additional or new water works, having been presented to Council in former reports, and there having been plans suggested, and some preliminary surveys and estimates made, it was decided to build an entirely new plant and to commence work upon it at as early a date as possible; accordingly, on February 26th proposals were advertised for boring a number of artesian wells to be twelve (12) inches in diameter, and to be situated on the Springfield plantation north of Gwinnett street and immediately west of West Boundary street.

Before the beginning of any work upon the erection of new works, the services of Mr. Thomas T. Johnston of Chicago, Illinois, was secured, and an engagement entered into with him as consulting engineer, he having had large experience, and having been in charge of the building of a water works plant of the same, or like character, only a short time previous at Memphis, Tenn., with eminent success. Proceedings were at once entered upon, maps and surveys made, test pits dug in the ground and a most thorough examination and investigation into the subject in order to collect information and obtain all the advantages, and the most suitable location.

After carefully viewing the surroundings of the portion of the Springfield plantation on which one (12) inch Artesian well had been bored and completed at a depth of fifteen hundred and fifty (1,550) feet, objections were presented, and it was deemed inadvisable to build the new works and to bore other artesian wells at that point. That location was abandoned and a new site was selected on the west side of the Springfield plantation, at the intersection of Gwinnett street and Stiles avenue. Negotiations were opened with the owners of the land, and the lots numbers fifty-seven (57), fifty-eight (58), and fifty-nine (59), lying north of Gwinnett street and east of Stiles avenue on the Springfield plantation, and containing thirty-one (31) acres, was secured by purchase from the Savannah Brick Manufacturing Company, for the sum of Seventeen Thousand and Fifty Dollars (\$17,050). Eight and one-third (8 $\frac{1}{3}$) acres of the tract purchased to be reserved as a site for Water

Works, and the remainder to be placed in the hands of a committee of City Council to be disposed of to the best advantage.

The site selected is favorably and conveniently situated for the purpose and the character of the work contemplated. It being near the city and far enough removed from any contaminating influences.

The consulting engineer submitted plans and specifications for the kind and capacity of pumping machinery and for boilers. Also, for a brick conduit to conduct the water to the pumping station. This conduit to extend from the pumping station to the river at or near the present works. It will receive the water from the present wells to be bored along the same line on which it is to be built and conduct it to a wet well at the pumping station. When completed its whole length will receive and conduct the water from the wells now supplying water at the present works, and also be available to obtain water from the river at the new works should it ever become necessary from any cause to resort to that source for a supply of water.

The plans also provide for a forcing main of the dimensions of forty-two (42) inches and thirty-six (36) inches, to be laid in and along Gwinnett street from the pumping station into the City and up to Abercorn street, with proper outlets to connect with a stand pipe to be located in the south part of the Park Extension, near the intersection of Bull and New Houston streets. And for a pumping station, boiler house and wet well.

After examination of the plans and consultation with the engineer upon them, they were approved by the Committee, and authority was given by Council to proceed to advertise for bids for furnishing and constructing new Water Works.

On May 21st, proposals were called for furnishing and constructing machinery and boilers as follows: Two high duty pumping engines, each having a capacity of ten million (10,000,000) U. S. gallons per day, and the necessary boilers.

On July 14th, for the construction of a water conduit of masonry, or masonry and timber, having an internal diameter of (approximate) six (6) feet, and a length of three thousand (3,000) feet, more or less, only this length of the conduit to be built at this time.

On July 30th, for furnishing cast-iron water pipes and special castings.

On October 21st, for furnishing valves or water gates, and for furnishing sixty thousand (60,000) pounds of lead, for drayage of pipes, for laying pipes in the ground, also for constructing subwork of pumping station, and for building railroad trestle for a track to extend from the track of the Central Railroad Company to the site of the new works.

The date of opening all bids for the pumping, machinery and boilers was July 20th, and at the time a number of builders presented their proposals. The Committee on Water examined all the bids offered, and after consultation that of the Holly Manufacturing Company, of Lockport, New York, was recommended to City Council to be awarded the contract. When brought before the

board, objection was raised to receiving the bid, upon the ground that it had been handed in after the hour named in the advertisements for proposals, which objection prevailed and no award was made. New calls for proposals for the same were advertised, to be received until August 20th, at which time all bids received were opened at a meeting of the committee, and the Holly Company's offer being considered the best, was recommended to Council, and the contract was awarded them.

Contracts for furnishing and constructing the works have been awarded as follows:

For boring a number of twelve (12) artesian wells, to E. F. Joyce, of St. Augustine, Florida, at four dollars and fifty cents, to a depth of four hundred and thirty feet (430 feet) at \$4 50 per foot, and any greater depth at five dollars per foot (\$5 per foot) over 430 feet.

For constructing and furnishing two (2) high duty pumping engines, to the Holly Manufacturing Company, of Lockport, New York, for the sum of ninety-two thousand four hundred dollars (\$92,400).

For constructing and furnishing the necessary boilers, to John Rourke & Son, of Savannah, Ga., for the sum of thirteen thousand eight hundred and seventy-five dollars (\$13,875).

On August 26th, bids were received and opened for the construction of a water conduit, and the contract was awarded to Robertson & Weaver, of Baltimore, Maryland, for the sum of twenty-seven thousand five hundred dollars (\$27,500).

And for the construction of Section C of the said conduit, as provided in specifications at and for the price of ten dollars and forty-five cents per lineal foot (\$10 45 per foot).

On August 26th, bids were received and opened for furnishing cast-iron water pipes and special castings, and the contract awarded to the Howard Harrison Iron Company of Bessemer, Ala., at the following prices: Forty-two (42) inch, and thirty-six (36) inch pipe, at twenty-one dollars and seventy-five cents per ton of 2,000 pounds (42 inch and 36 inch pipe, \$21 75 per ton). And special castings at two dollars and seventy-five cents per one hundred pounds (\$2 75 per 100 pounds).

On November 21st, bids were received and opened for furnishing valves or water gates, and the contract awarded to the Rensselaer Manufacturing Company of Troy, New York, for the sum of four thousand eight hundred dollars (\$4,800).

On the same date as above, bids were received and opened, and the contract for furnishing sixty thousand (60,000) pounds of pig lead, was awarded to the Palmer Hardware Company, at the price of four dollars and seventy-three cents per one hundred pounds (\$4 73 per 100 lbs).

On same date bids were received and opened, and the contract for laying water pipes in ground, was awarded to Martin Cooley of Savannah, Ga., at the price of one dollar and ten cents for the forty-two inch pipe (42 inch, \$1 10 per foot), and eighty-five cents for the thirty-six inch pipe (36 inch, 85 cents per foot).

The contract for drayage of pipes was awarded to John McGrath of Savannah, Ga., at the price of

one dollar and twenty-five cents per ton. (\$1 25 per ton).

The contract for constructing trestle for railroad track, was awarded to J. H. Rosseau of Atlanta, Ga., for the sum of five thousand and two dollars and eighty-four cents (\$5,002 84).

The contract for constructing the sub-work of pumping station, was awarded to W. F. Chaplin of Savannah, Ga., for the sums as follows:

For excavation.....	\$2,900 00
For chimney.....	7,460 00
For stone caps.....	1,134 00
For brick masonry, per cubic yard.....	9 45
Concrete, per cubic yard.....	7 25

The work of boring the artesian wells has progressed as rapidly as possible. Two gangs of men with derricks and full set of boring apparatus have been at work all the time. Eight wells have been completed, each having a diameter of twelve (12) inches, and bored to the depth of from five hundred (500) to six hundred (600) feet. They are located along the line of Stiles avenue, on which line the Conduit will be built. Each well has been cased down to a depth of about two hundred and twenty-five (225) feet. The flow of water from all the completed wells has proven exceedingly satisfactory, each well discharging about a half million (500,000) gallons per day, and it may reasonably be expected that a sufficient quantity will be obtained for a full and ample supply when all the wells are completed.

Favorable reports have been received from the Holly Manufacturing Co., contractors for furnishing pumping machinery, in relation to the ad-

vancement of work on the pumps, and it is probable that shipments of parts of the material may be expected about February 1, 1892.

The boilers are being built quite rapidly, the start being made and the work continuous, with the probability of their being completed, when needed to be set.

The cast-iron water-pipe and special castings is being delivered, and placed on line of the street, and the contractor for laying it has commenced work.

The building of the brick water conduit has been very much delayed by the failure to provide the proper material by the contractor, and the work has progressed very slowly. However there is ample time for its completion for use when needed if pushed with proper energy and activity.

The foundations or sub-work of the pumping station and chimney has been commenced by the contractor, he has quite a good force of hands at work, but as the contract was awarded only a short time he has done only some excavating.

The valve or water gates are being manufactured and will be shipped some time next month.

There are but two other contracts to be let of any great importance, or involving any expensive outlay of money, namely: For the construction of the buildings and the boiler settings. These will receive attention, and will be called for in proper time, as they are not of a character to cause delay or inconvenience.

The actual amounts of the contracts already provided for have come within the estimate made, and there is no indication that the estimate will be exceeded.

It was supposed when the work was undertaken that it would require two years, or very nearly that time, to build the works, but it is very probable now that water will be pumped before the lapse of so much time, in fact, it may be pumped sometime in the early fall of 1892.

For the successful prosecution of the work contemplated, it was very necessary to have the assistance of expert engineers and inspectors for the purpose of giving proper and accurate lines and levels, making profiles, etc., and intelligently supervising and inspecting all construction and all material. The services of Mr. W. R. Curtis, a civil engineer of well known ability, was secured, and he was placed in charge with instructions to organize a corps of engineers and inspectors for active work in the field. They rapidly obtained the requisite information in relation to the advantages of location, character of soil, etc., for consideration of the committee and the consulting engineer, and have been engaged in the general supervision and advancement of the various parts of building the works.

AMOUNT EXPENDED ON THE CONSTRUCTION OF THE NEW WATER WORKS TO DECEMBER, 1891.

Including preliminary surveys, engineers' salaries and work done, and for boring artesian wells:

Thos. T. Johnston, Civil Engineer, salary and expenses.....	\$ 3,150 00
Salaries—	
Time of hands.....	\$1,158 16
W. R. Curtis, C. E.....	410 00
Pay rolls.....	1,768 83
	3,336 99

588 60

Printing and stationery.....

Miscellaneous—

Telegrams and express charges.....\$ 18 98

Carriage hire 29 00

Drayage..... 24 80

Hose, fixtures and pipe 44 05

Temporary buildings at site.. 713 87

Hire horse and buggy and

instruments for engineers.. 161 00

Hire of stenographer..... 75 00

1,066 70

Conduit.....

132 50

Railroad trestle.....

6,466 01

Howard Harrison Iron Co. for water

14,867 79

pipe.....

293 15

Rob't W. Hunt & Co., inspection of pipe

3,915 79

Laying water pipe

450 00

Michael Walsh, purchase of land for

18,997 20

widening Stiles avenue

\$53,264 73

Artesian wells

Very respectfully submitted.

JAMES MANNING,
Superintendent.

ANNUAL REPORT

OF

JOHN J. McDONOUGH,

MAYOR OF THE CITY OF SAVANNAH,

FOR THE

YEAR ENDING DECEMBER 31st, 1892,

TO WHICH IS ADDED THE

TREASURER'S REPORT

AND

REPORTS OF THE DIFFERENT DEPARTMENTS.

SAVANNAH:
THE MORNING NEWS PRINT.
1893.

REPORT OF THE SUPERINTENDENT OF WATER WORKS.

SAVANNAH, GA., December 31st, 1892.

Honorable John J. McDonough, Mayor :

SIR—I have the honor herewith to present report, showing the operation of the Water Works Department, during the year ending December 31st, 1892.

The record, as shown below, presents a total of two billion, three hundred and forty-seven million, one hundred and nineteen thousand, three hundred and forty gallons of water pumped during the year:

MONTHS.	RECORD.
January.....	198,648,000
February.....	185,063,040
March.....	201,980,160
April.....	198,263,520
May.....	212,361,120
June.....	204,415,200
July.....	201,566,880
August.....	206,337,600
September.....	188,779,680
October.....	196,469,280
November.....	195,572,160
December.....	157,662,700
	2,347,119,340

On the morning of the ninth (9th) day of December, at twenty-five minutes past nine o'clock, water was pumped into the city from the new water works. One Gaskill engine having been put in operation, and since that date there has been pumped from that station ninety-eight million, three hundred and eighty-three thousand, nine hundred and twelve (98,383,912) gallons of water, which, added to the record for December, gives a grand total of two hundred and fifty-six million, forty-six thousand, six hundred and twelve (256,046,612) gallons of water pumped into the city during the month of December.

ENGINES AND MACHINERY.

The large Worthington engine has been run continuously from the first of January until the nineteenth of December, with the exception of stops of a few hours at different times (amounting in all to fifty-eight hours), for the purpose of re-packing rods and examining and renewing valves. Since the nineteenth of December, the small engine has been run, as it was found to be sufficient, in conjunction with the Gaskill engine at the new works, to maintain the pressure. Both of the Worthington engines are in good general order and condition.

DONKEY OR FEED PUMP.

Two of the three donkey or boiler feed pumps have been rebuilt during the year, and all are at present in good order.

BOILERS.

The boilers are all in good order and have re-

quired no repairs. The brick settings have been repaired at a small cost.

BUILDINGS AND GROUNDS.

The buildings are in very good condition; no repairs have been made. The grounds have been kept in as good condition as possible with the limited amount expended. In view of the probable removal to the new water works, no improvements or extensive repairs are needed.

ARTESIAN WELLS.

As stated in last year's report, the artesian wells did not furnish a sufficient quantity of water to keep up the supply demanded and the addition of river water has been necessary. The mixing of artesian and river water has been pronounced as unhealthy, or at least injurious to health. But no proof has been advanced to sustain the imputation. The analysis of the mixed water has been declared fit and wholesome by the Geological Survey Department at Washington, D. C., after a proper test of samples sent to them. There has been no river water pumped since December 19th.

RIVER WELL.

The river well, having been generally overhauled last year, is in good order.

FORCING MAIN.

The forcing main from the works into the city has shown no leaks, and is in very good condition.

RESERVOIR.

The reservoir in Franklin square has been used during the entire year. It has needed no work of

any kind on it. The tank should receive a coat of paint to preserve the iron from rust.

FIRE HYDRANTS.

The fire hydrants have been kept in good order, having been inspected, cleaned and oiled regularly. Twenty-two new hydrants have been put in on the lines of the extensions, the total number now being four hundred and twenty-nine (429). This large number requires constant attention to keep them in order, there being so many of them old and worn.

PUBLIC OR FREE HYDRANTS.

The public or free hydrants have been in use a number of years and receive constant and rough usage. They are wearing out very rapidly. Twenty-one (21) old hydrants have been taken out and replaced with new ones.

FLUSHING SEWERS AND CESSPOOLS.

The sewers have been flushed daily and the cesspools have been kept supplied with fresh water. Quite a number have been added by the Street and Lane Department, and the large number of cesspools now in the city require a great quantity of water in order to keep them in good order.

EXTENSION OF WATER MAINS.

The water mains have been extended only in short distances on the following streets:

On Charles street from West Broad street west, 268 feet 6-inch pipe.

On Montgomery street from Anderson to Ninth street, 2,752 feet 10-inch pipe.

On Second street from Montgomery to Barnard street, 696 feet 6-inch pipe.

On Third street from Montgomery to Barnard street, 636 feet 6-inch pipe.

On Seventh street from Montgomery to Barnard street, 672 feet 6-inch pipe.

On Ninth street from Montgomery to Barnard street, 660 feet 6-inch pipe.

On West Boundary street from Indian lane to Bay street, 438 feet 6-inch pipe.
Total, 6,122 feet.

The extensions on streets named south of Anderson street, being outside the limits of city taxation, the cost has been charged to the owners of the lots and collected from them, the amounts to be refunded when the lots become taxable, without interest. The resolution authorizing the extensions, passed by Council August 10th, 1892, granting application of the Savannah Investment Company, and passed on October 26th, 1892, granting application of the Chatham Real Estate and Improvement Company.

These extensions of the mains, added to the system, make a total of forty and seven-eighths miles and three hundred and sixty-four feet (40½ and 364 feet).

VALVES.

Nine new valves have been placed on the line of the extensions:

One on Montgomery street, south side Anderson street, 10-inch valve.

One on Montgomery street, south side Fourth street, 10-inch valve.

One on Montgomery street, south side Sixth street, 10-inch valve.

One on Second street, east side Montgomery street, 6-inch valve.

One on Third street, east side Montgomery street, 6-inch valve.

One on Seventh street, east side Montgomery street, 6-inch valve.

One on Ninth street, east side Montgomery street, 6-inch valve.

One on West Boundary street, south side Indian lane, 6-inch valve.

One on Charles street, west side West Broad street, 6-inch valve.

All the valves in the system of mains have been oiled and repacked, and are in very good order.

LEAKS.

There has been very few leaks in the main pipes, and none of very serious consequence. The four-inch main in alley running from Zubly to Harrison street broke in half, but was repaired without damage. Soon after the new Gaskill engine was started a break was discovered in the sixteen-inch main on Abercorn street near New Houston street. It was found to be a crack and it is supposed was defective when laid, but was not observed. Another break was found in the ten-inch main on Anderson street and West Broad street of the same nature. All were repaired promptly.

EXPENSES.

The expenses of the department as per statement accompanying this report, exceeds the appropriation to a small amount. This is owing

to the expenses charged to extensions, and if the amounts collected from the owners of the lots in the non-taxable limits where the extensions were made is deducted, the department has been maintained within the amount appropriated.

EXPENSES AND EXPENDITURES OF THE WATER WORKS, 1892, AS PER BILLS PASSED IN SUPERINTENDENT'S OFFICE.

	January	February	March	April	May	June	July	August	September	October	November	December	
Running Account.	\$ 739 21	\$ 840 13	\$ 637 72	\$ 647 86	\$ 478 95	\$ 415 94	\$ 832 78	\$ 838 89	\$ 428 89	\$ 284 91	\$ 579 58	\$ 1,118 97	\$11,145 80
Repairs Account.	45 25	1 60	1 60	18 90	3 75	86 90	9 00	51 21	15 65	17 15	28 45	16 05	167 18
Connections Account.	130 69	13 25	13 25	30 17	80 17	11 20	7 55	300 00	48 74	300 00	84 88	4,437 11	\$ 4,437 11
Cesspools Account.	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47
Hydrants Account.	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47
Incidentals Account.	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47
Artesian Wells Account.	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47
Meters Account.	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47
Extensions Account.	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47
Salaries Account.	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47	183 47
Totals.	3,279 20	3,279 20	3,279 20	3,279 20	3,279 20	3,279 20	3,279 20	3,279 20	3,279 20	3,279 20	3,279 20	3,279 20	3,279 20

RECOMMENDATIONS.

There are a number of the mains which do not connect at the extremities and are known as "dead ends," which should be extended and make the system more complete. Some of them are four-inch pipes and do not furnish a good service, even at their best condition. Most particularly are those on the following streets:

On Wayne street from Montgomery to West Broad street.

On Perry street from Arnold to Randolph street.

On Harris street from Tattnall to West Broad street.

On Harrison street from West Broad to Farm street.

On Berrien street from Tattnall to West Broad street.

On Waldburg street from West Broad to Burroughs street.

On New Houston street from West Broad to Burroughs street.

On Huntingdon street from West Broad to Wilson street.

On Charlton street from Price to East Broad street.

On East Boundary street from Broughton to Liberty street.

On Lumber street from New to Bay street.

On West Boundary street from New to Bay street.

On New street from Lumber to West Boundary street.

The new Gaskill engine at the new works having been completed sufficiently to enable its being

placed in service, and the work of completing the new works being in progress and advancing, it is very probable that the engines at the old works may be shut down entirely in the near future; therefore there is no matters to suggest in connection with the improvement at the old works.

In closing I respectfully tender my warmest thanks to your honor and the members of the board for the uniform kindness and courtesy received at all times; and also take pleasure in testifying to the good conduct of the employees of the department, in showing a willingness to respond to all calls made upon them, whether day or night or Sundays, and performing their work promptly. Very respectfully submitted by

Your obedient servant,

JAMES MANNING,
Superintendent.

REPORT OF CLERK OF THE MARKET.

COST OF NEW WATER WORKS TO DEC. 31, 1892.

	1891.	1892.
Artesian wells and connections.....	\$ 19,779 80	\$ 12,322 03
Pumps and expenses.....	.....	18,454 80
Boilers and settings.....	.....	10,403 32
Sub-work--pumping station.....	.....	35,698 99
Conduit.....	132 50	37,937 53
Railroad track.....	6,466 01	7 87
Water pipes.....	14,867 79	12,082 12
Water pipe, hauling, laying and inspect- ing.....	4,179 02	17,250 66
Engineer's salary, time of hands.....	2,579 31	10,250 59
Consulting engineer.....	3,150 00	2,500 00
Consulting engineer, traveling expenses.....	.....	1,320 83
Jerome packing.....	.....	16 94
Temporary Buildings.....	757 92	487 40
Office furniture and fixtures.....	.....	51 80
Printing, stationery and telegrams.....	741 38	485 53
Engineering instruments, etc.....	161 00	520 00
Grading.....	.....	600 00
Foundations.....	.....	218 52
Sewers, etc.....	.....	798 00
Right-of-way.....	450 00	.....
Insurance.....	.....	100 00
Total.....	\$ 53,264 73	\$ 161,616 93
		53,264 73
		\$ 214,881 66

OFFICE OF CLERK OF THE MARKET,
SAVANNAH, GA., January, 10th, 1893.

Hon. John J. McDonough,

Mayor City of Savannah:

SIR—I have the honor to submit herewith, my report of the affairs of the Market Department for the year ending December 31st, 1892.

In the beginning of the year, the roof of the Market building became very leaky and after much perseverance had the leaks all stopped; the cornices on the ventilators had rotted away, and I had them replaced by new ones.

I also had new gutters put along the eaves of the upper roofs because the old ones had become useless from corrosion.

The tin work on the roof, and the gutters and leaders having been all repaired, two good coats of paint are necessary to place them in good condition.

The chimneys I found too low, (which evidently was an oversight on the part of the architect on the construction of the Market) which caused a continuous complaint from the tenants in the basement, on account of smoky chimneys.

I had them built up so as to project slightly above the ridges of the roof, and thereby remedied the defects.

ANNUAL REPORT
OF
JOHN J. McDONOUGH

MAYOR OF THE CITY OF SAVANNAH,

FOR THE

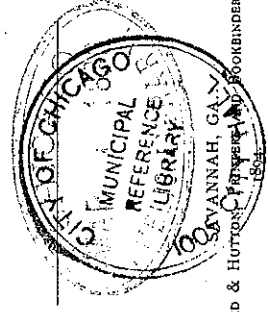
YEAR ENDING DECEMBER 31, 1893,

TO WHICH IS ADDED THE

TREASURER'S REPORT

AND

REPORTS OF THE DIFFERENT DEPARTMENTS.



REPORT OF SUPERINTENDENT WATER WORKS.

Hon. John J. McDonough, Mayor:

SAVANNAH, GA., January 1st, 1894.

SIR—In accordance with custom and requirement, I herewith submit the annual report of the Water Works Department for the year ending December 31st, 1893.

The new works having been completed with increased pumping capacity of high order, I am pleased to say that the service has been very satisfactory and that the outlook for the future is exceedingly encouraging.

One of the new Gaskill pumping engines was put in operation on the 9th of December, 1892, as mentioned briefly in the report of that year, and during the twelve months ending on December 8th, 1893, the new pumps have been in operation three hundred and sixty-two (362) days, during which time there has been pumped two billion, two hundred and fifty-seven million, nine hundred and forty-one thousand, five hundred and ninety-five (2,257,941,595) gallons of water, an average per day of six million, two hundred and thirty-seven thousand, four hundred and eight (6,237,408) gallons.

The new Gaskill pumping engines are numbered as No. 410 and No. 411 by the builders, the Holly Manufacturing Company of Lockport, N. Y. During the

year Engine No. 410 has run one hundred and twenty-three (123) days and Engine No. 411 has run two hundred and thirty-nine (239) days. Both engines have performed their work exceedingly well.

The engines and boilers were run upon a duty test on the 27th and 28th days of March and came fully up to the requirements of the contract.

The total quantity of coal consumed has been two thousand and twenty-seven (2,027) tons, an average of five six-hundredths ($5\frac{4}{100}$) tons per day, for which was pumped one million, one hundred and thirteen thousand, nine hundred and thirty-three (1,113,933) gallons of water per ton of coal.

The total cost of fuel has been six thousand, five hundred (\$6,500) dollars, which, compared with the cost of fuel at the old works, is very favorable, the annual cost for fuel at the old works having been about ten thousand (\$10,000) dollars.

The whole number of the artesian wells not having been completed or connected when the new pump was placed in operation, and when completed the bulkheads inside conduit having to be removed in order to obtain the use of the wells, it became necessary to shut down the pumps and return to the old works for furnishing the supply of water during the progress of the work. As soon as this was completed the new pumps were again placed in service and have been at work continuously since March 26th.

For a statement of the service performed and water pumped during the year refer to the following:

RECORD.

1893.	New Works.	Gallons.
January	184,773,374	
February	177,993,476	
March	175,451,607	
April	212,607,137	
May	216,525,650	
June	188,927,847	
July	187,918,782	
August	180,370,637	
September	191,753,662	
October	201,747,621	
November	189,415,323	
December	192,741,027	
Total New Works	2,301,226,193	

Total New Works.....	2,301,226,193
Old Works.	
January.....	109,555,200
February.....	8,637,300
March.....	28,820,170

Two billion, four hundred and forty-eight million, two hundred and thirty-eight thousand, eight hundred and sixty-three gallons.

ENGINES AND MACHINERY.

At Old Works.

The engines and machinery at the old works on the river were used as needed, when it became necessary to do so, during the progress of work on the conduit and artesian wells. They were shut down on the 26th day

March, as the new works were then ready to be permanently used. The building was closed securely to prevent any interference with the machinery and other property; the engines and boilers and all machinery and pipes, etc., pertaining to them thoroughly cleaned and properly covered with grease. All possible precautions have been taken to protect them from injury. It is true, however, that some of the working parts will suffer to some extent from corrosion while standing idle, it not being practicable to grease all of such parts properly without disconnecting them.

BUILDINGS AND GROUNDS.

At Old Works.

The buildings at the old works within the enclosure, together with the fencing, trees and shrubbery, were severely damaged by the cyclonic storm which visited this vicinity on August 27th. But as they were not necessary for use, only such repairs were made as to secure the grounds from intrusion and preserve the plants and shrubbery.

In order to secure protection to the property and also to avoid expense, the grounds have been placed in charge of Mr. Joseph Hull, whose fertilizer factory adjoins, who agrees to keep them in good order and prevent any damage or trespassing, the watchman at the factory to look after the protection of the place at night, this arrangement being economical and effective.

PUBLIC OR FREE HYDRANTS.

It has been necessary to replace twenty (20) of the free hydrants, which were worn out, with new ones.

Taking in consideration the nature of these hydrants and use of them by the general public, it is remarkable that they remain useful as long as they do and are not a greater expense.

FIRE HYDRANTS.

Seventeen (17) new fire hydrants have been added to the system, which were placed on the lines of the pipe extensions in the extended limits of the city, affording fire protection to a large area which has been built upon, and on the wharf of the Baltimore Steamship Company; the total number of fire hydrants now in the system being four hundred and forty-six (446).

FORCING MAIN.

The old forcing main leading into the city from the old works is now used as a distributing main for the supply of water for the Ocean Steamship Company's wharves and factories along the line of the river. The nature of the land through which it is laid being river bottom land and soft and yielding, the joints are constantly being started and small leaks are shown. These are recaulked without trouble, but require watchful and unremitting attention.

RESERVOIR.

The reservoir or stand pipe in Franklin square is in very good order. No work has been done on it in several years. As a matter of preservation, the iron tank should receive a coat of paint and new doors hung, the doors being very rotten and unfit to be repaired.

FLUSHING CESSPOOLS AND SEWERS.

The cesspools and sewers have been properly flushed when needed and kept in very good order. The cost of keeping in repair the supply pipes and bibbs has been increased on account of the age of those first connected and the increase in pressure from the new pumps.

EXTENSIONS.

The water mains have been extended in the following streets:

On Whitaker street, from Anderson to Tenth street, 12-inch pipe, 2,981 feet.

On Second street, from Whitaker to Barnard street, 6-inch pipe, 348 feet.

On Eighth street, from Whitaker to Barnard street, 6-inch pipe, 360 feet.

On Tenth street, from Whitaker to Barnard street, 6-inch pipe, 384 feet.

On Brady street, from Bull to Barnard street, 6-inch pipe, 624 feet.

On Barnard street, from Eighth to Tenth street, 6-inch pipe, 708 feet.

On Randolph street, from St. Julian to Bay street, 6-inch pipe, 276 feet.

Total, 5,681 feet, making a grand total of forty-two miles and one hundred and five feet ($42\frac{105}{5280}$ miles).

Branches have been placed in the mains at the intersections of the streets, for future extensions, located at the following points:

At Whitaker and First streets.

At Whitaker and Second streets.

At Whitaker and Third streets.
 At Whitaker and Fourth streets.
 At Whitaker and Sixth street.
 At Whitaker and Seventh street.
 At Whitaker and Eighth street.
 At Whitaker and Ninth street.
 At Whitaker and Tenth street.

VALVES.

Twelve (12) new valves have been put in at the following locations:

One at East Broad and Bryan streets, in west crossing, 4-inch valve.
 One at East Broad and Congress streets, in west crossing, 4-inch valve.
 One at Whitaker and Anderson streets, in south crossing, 12-inch valve.
 One at Whitaker and Third streets, in south crossing, 12-inch valve.
 One at Whitaker and Seventh streets, in north crossing, 12-inch valve.
 One at Whitaker and Second streets, in west crossing, 6-inch valve.
 One at Whitaker and Brady streets, in west crossing, 6-inch valve.
 One at Whitaker and Brady streets, in east crossing, 6-inch valve.
 One at Whitaker and Eighth streets, in west crossing, 6-inch valve.
 One at Whitaker and Tenth streets, in west crossing, 6-inch valve.

On at Bay and Randolph streets, in south crossing, 6-inch valve.

One at Bay and East Broad streets, for sewer, 4-inch valve.

LEAKS.

There has been only two leaks in the main pipes, one in the 6-inch main on Henry street, near Montgomery street, and one on south Broad street, corner of Whitaker street, both of which were repaired promptly and without inconvenience to the consumers. The old mains have withstood the increase in pressure much better than was expected.

EXPENSES OF THE WATER WORKS, 1893, AS PER BILLS PASSED IN SUPERINTENDENT'S OFFICE.

Totals	Totals	1893												Total											
		January	February	March	April	May	June	July	August	September	October	November	December												
Running Account	\$ 1,185.45	\$ 548.70	\$ 865.40	\$ 1,700.97	\$ 610.04	\$ 795.79	\$ 1,166.87	\$ 1,186.87	\$ 729.03	\$ 715.08	\$ 471.98	\$ 456.99	\$ 482.30	\$ 10,997.58											
Repairing Account					\$ 418.04	\$ 200.56	\$ 197.83	\$ 819.90	\$ 252.95	\$ 84.00	\$ 50.15	\$ 63.58	\$ 211.30	\$ 3,892.76											
Connections Account						\$ 91.83		\$ 2.50						\$ 94.03											
Cesspools Account	\$ 6.15	\$ 76.07	\$ 89.24	\$ 65.05		\$ 12.75	\$ 15.23	\$ 15.25	\$ 27.30	\$ 28.05	\$ 10.00	\$ 7.00	\$ 19.15	\$ 230.10											
Hydrants Account									\$ 83.08		\$ 87.74			\$ 152.89											
Incidentals Account		\$ 1.18	\$ 1,197.08	\$ 1.00	\$ 9.85	\$ 8.00	\$ 3.00	\$ 9.77	\$ 19.65	\$ 100.00		\$ 75		\$ 152.65											
Extensions Account			\$ 189.05	\$ 25.41	\$ 5,118.97	\$ 437.10								\$ 6,973.21											
Artesian Wells Account						\$ 92.25								\$ 93.28											
Meters Account								\$ 9.40						\$ 9.40											
Insurance Account				\$ 173.00			100.00							\$ 275.00											
Improvement Account							\$ 1,409.16	\$ 1,431.41	\$ 845.53	\$ 1,409.16	\$ 1,423.41	\$ 1,400.16	\$ 1,421.66	\$ 11,905.68											
Salaries Account	\$ 1,524.16	\$ 4,588.74	\$ 2,137.90	\$ 3,142.07	\$ 1,471.66	\$ 1,531.41	\$ 1,409.16	\$ 1,431.41	\$ 845.53	\$ 1,409.16	\$ 1,423.41	\$ 1,400.16	\$ 1,421.66	\$ 11,905.68											
Totals	\$ 4,588.74	\$ 2,137.90	\$ 3,142.07	\$ 1,471.66	\$ 1,531.41	\$ 1,531.41	\$ 1,409.16	\$ 1,431.41	\$ 845.53	\$ 1,409.16	\$ 1,423.41	\$ 1,400.16	\$ 1,421.66	\$ 11,905.68	\$ 41,912.84										

RECOMMENDATIONS.

The engine and boiler rooms being very large, it is found to be too spacious to properly or advantageously light them with lamps, an appropriation being expected in the budget of the coming year to put in an electric light plant. I would suggest that it be provided at as early a day as possible after the amount is available, in order to insure comfort and convenience and better care of the property.

The coal yard now in use is only a temporary deposit and inconvenient, and makes the handling of the coal an expensive matter. It is hoped and expected that provision will be made as soon as possible for a permanent coal yard, with convenient railroad tracks, making it easy to unload the cars immediately in the yard.

As the weights of coal furnished by shippers and the railroads are the only means by which to ascertain the correct weights of car-loads received at the works, it is recommended that a track scales be put in, that the coal may be weighed by ourselves, and a correct record be kept for all uses.

Owing to multitudinous details in providing for and conveniently and successfully running the new works since starting up, the improvement of the grounds has received little or no attention. A survey has been made and a contour plan drawn, and it is expected that the matter of laying out the grounds in walks and drives, with ornamental features to be determined upon, will be taken in hand as soon as possible.

There are quite a number of the streets of the city, inside of the lines of the extended limits, that have never been provided with water mains, and the absence of them has caused great inconvenience to owners and occupants of the property situated along such streets.

To lay mains on those streets would complete the system of water pipes, provide convenient and economical attachments, and increase the pressure, by causing free circulation without "dead ends."

The following list of streets will show the locations:

On East Boundary street, from Broughton to Liberty street.

On Perry street, from near Arnold to Randolph street.

On Charlton street, from East Broad to Price street.

On Perry street, from East Broad to Arnold street.

On Harrison street, from West Broad to Farm street.

On Lumber street, from New to Bay street.

On West Boundary street, from New to Bay street.

On Purse street, from Harris to Jones street.

On Huntingdon street, from West Broad to Wilson street.

On Harris street, from Tatnall to West Broad street.

On Wayne street, from Montgomery to West Broad street.

On Berrien street, from Tatnall to West Broad street.

On Waldburg street, from Burroughs to West Broad street.

On New Houston street, from Burroughs to West Broad street.

On Cemetery street, from Gwinnett to Anderson street.

In concluding I take the opportunity of expressing to your honor and the committee my sincere appreciation of the courtesies received, and acknowledge with much pleasure the prompt and cheerful attention to their duties of the employees.

Very respectfully yours,

JAMES MANNING,
Superintendent

ANNUAL REPORT

OF

JOHN J. McDONOUGH

MAYOR OF THE CITY OF SAVANNAH,

FOR THE

YEAR ENDING DECEMBER 31, 1894,

TO WHICH IS ADDED THE

TREASURER'S REPORT,

AND

REPORTS OF THE DIFFERENT DEPARTMENTS.

SAVANNAH, GA.:
BRAD & HUTTON, PRINTERS AND PUBLISHERS.
1895.

- 121. Habersham and Third.
- 123. Whitaker and Third.
- 125. West Broad and Third.
- 132. Burroughs and Sixth.
- 141. Barnard and Ninth.
- 142. West Broad and Ninth.
- 321. Standard Oil Company's Works.
- 323. Old Folks Home—Little Sisters of the Poor.

TELEPHONES.

- 100. Engine Company No. 4, Barnard and Hall.
- 128. Engine Company No. 5, Henry, near Drayton.
- 259. Engine Company No. 2, West Broad and Olive.
- 309. Headquarters, South Broad and Abercorn.
- 404. Engine Company No. 1, Broughton, near Houston.

DEPARTMENT SIGNALS.

- 2-2-1. General Alarm.

For fires in the northern section of the city:

- 3 taps call Hose Wagon No. 4.

- 2-2 taps call Engine and Wagon of No. 4.

For fires in the southern section of the city:

- 3 taps call Hose Wagon No. 3.

- 2-2 taps call Engine and Wagon of No. 3.

1 tap first after the sounding of an alarm signals the water works to resume domestic pressure.

The second tap after the sounding of an alarm denotes fire out.

Eleven taps, repeated, calls the military and denotes riotous disorder.

REPORT OF SUPERINTENDENT OF WATER WORKS.

OFFICE SUPERINTENDENT OF WATER WORKS, }
SAVANNAH, GA., Jan. 1, 1894.

Hon. John J. McDonough, Mayor:

SIR—I have the honor to submit the following report of the Water Works Department for the year ending Dec. 31, 1894:

The record of the pumpage, as shown below, presents an apparent decrease from the quantity pumped the previous year, which is accounted for by the use in 1893 of the engines at the old works, which, in conjunction with the new, pumped during the month of January, 1893, 294,328,574 gallons, or about 90,000,000 gallons above the average for a month. This unusual demand for water was principally caused by severe cold weather, a snowstorm having visited our locality on Jan. 18, 1893, the cold continued for some days, when the quantity of water furnished reached the unprecedented amount of 10,700,000 gallons per day.

For a detailed account of the pumping, the quantity furnished monthly during the year, I refer to the following table:

	RECORD OF WATER PUMPED.
1894	Gallons.
January	188,320,474
February	173,840,548

March.....	204,115,444
April.....	201,901,639
May.....	211,137,602
June.....	208,944,289
July.....	197,967,300
August.....	198,549,172
September.....	202,300,917
October.....	210,653,335
November.....	199,922,708
December.....	205,040,330
Total.....	2,402,693,708

Two billion, four hundred and two million, six hundred and ninety-three thousand, seven hundred and eight gallons.

Premising that the city has a population of sixty thousand (60,000) inhabitants the quantity of water consumed would allow forty thousand and forty-one (40,041) gallons per capita per annum, or one hundred and nine (109) gallons per day.

ENGINES AND MACHINERY.

The engines and machinery are in good condition and have given good satisfaction generally. Some of the connections and appliances, however, are not up to the standard, which will be mentioned under the head of Recommendations in this report.

During the past year engine No. 410 has been in operation one hundred and ninety-four (194) days and engine No. 411 one hundred and seventy-one (171) days.

BOILERS.

The boilers are in good condition at this time, though it will be necessary to renew nearly all of the grate bars

and the fire brick lining of the furnaces from front to rear. I would recommend that a purifier be put in at an early day, at least one of them. They are very highly praised by all steam users who have tried them. Taken as a whole, the boilers and engines are very economical when compared with the old plant. The amount of coal consumed during the past year has been about twenty-two hundred (2,200) tons, an average of about six (6) tons per day, and the average quantity of water pumped per ton of coal has been one million and ninety-two thousand, one hundred and thirty-three (1,092,133) gallons.

BUILDINGS AND GROUNDS.

The buildings, being new, are in good order. Some work has been done on the interior to complete them, which was not included in the original contract.

The grounds have been laid out and leveled, drives and walks made and a basin dug, a fountain of home manufacture placed in the centre, which is intended to be only a temporary fixture, as it is hoped an amount sufficient to place a more ornamental fountain in its place will be appropriated.

COAL YARD.

During the year a convenient coal yard has been built and a railroad track leading to it has been laid, by which means the coal can now be dumped from cars near the fire room and the handling of fuel greatly simplified.

OLD WATER WORKS.

Engines and Machinery.

The engines and machinery of the old works have not been used, and although they have been kept covered, as

well as it is possible, with grease to protect them from deterioration, they would not be available for use unless they are carefully overhauled, it being impossible to preserve the working parts when the engines are lying idle. As it is probable that the engines would not be needed for use again, no expense has been incurred in having any work done on them except to renew the coating of white lead and tallow.

BUILDINGS AND GROUNDS.

The buildings have been kept securely fastened and remain in the same condition as at the last report, not having been used for any purpose. The fencing has been repaired in broken places and the ground protected as far as it is possible without expense. It is desired and intended to remove such plants and shrubbery as are ornamental and valuable to the grounds of the new works at as early a day as possible.

EXTENSIONS OF MAINS.

The mains have been extended only in short distances as the following list of location will show:

On South Broad street, from Randolph to McAllister street, 275 feet, 6-inch pipe.

On Anderson street, from Cemetery to West street, 192 feet, 6-inch pipe.

On Anderson street, into Laurel Grove cemetery, 204 feet, 4-inch pipe.

On Gwinnett street, from east of East Broad to Paulsen street, 1,400 feet, 6-inch pipe.

On Paulsen street, from Gwinnett to Flagler street 1,200 feet, 6-inch pipe.

On Joe street, from Paulsen, 384 feet, 4-inch pipe.

On Rockefeller street, from Paulsen, 384 feet, 4-inch pipe.

On Flagler street, from Paulsen, 384 feet, 3-inch pipe

Total, 4,423 feet.

These extensions added to the system now make a total of forty three miles and seven hundred and fifty-two feet ($43\frac{752}{1000}$ miles).

VALVES.

The gate valves have been thoroughly examined and overhauled and are in very good condition with the exception of some of the very old ones, which will have to be cut out and new valves put in place. There have been four (4) new valves put in:

1 at Anderson and Cemetery streets, 6-inch.

1 at East Broad and Gwinnett streets, 6-inch.

1 at Paulsen and Gwinnett streets, 6-inch.

1 at Paulsen and Flagler streets, 6-inch.

— 4

FIRE HYDRANTS.

Nine (9) fire hydrants have been added during the year. These have been placed on the extensions of mains. The total number of fire hydrants is now four hundred and fifty-five (455).

The excessive cold weather during the closing days of the year caused a number of the hydrants to be frozen, and three (3) of them have been taken out and replaced with new hydrants, they being cracked and rendered useless.

PUBLIC OR FREE HYDRANTS.

Twelve (12) new public hydrants have been put in place of old hydrants removed. All others are in very

good order, though some of them may have to be taken out during the coming year on account of age. They are kept in use as long as it is possible, only being removed when broken or worn entirely out.

FLUSHING CESSPOOLS AND SEWERS.

The cesspools and sewers have been kept flushed daily and in good condition. The use of water for this purpose is very great and the cost of repairs considerable. The expense, however, is kept as low as possible, as the greater portion of the work is done by the employes of the department.

LEAKS.

There have been no leaks in the mains during the year and only a few leaks at pipe joints, which were repaired immediately after being discovered. It has been a matter of surprise that the old mains have stood so well, those in the older parts of the city being quite aged, having been in the ground since the year 1853, at which time the original works were built—a period of forty-one (41) years.

WASTE.

There has been discovered by inspection eleven hundred and seventy-five (1,175) leaking fixtures and supply pipe and fixtures left running, and notices sent to owners and agents.

It has become manifest, both from observation and computation, that a large proportion of the total pumpage is wasted, and that it is a heavy, additional and unnecessary expense to the city, since the expenditure of fuel and ware and tear of machinery are directly pro-

portionate to the pumpage, and have no relation to the use or misuse of the water after delivery.

There being no arrangement for the determination of the locations of the waste, except by inspections and the casual information from citizens, it is not possible to correct the many leaking and flowing hydrants, water closets, wash basins, etc. by the system heretofore in use. That there should be some waste not due to ignorance and a want of a just and proper comprehension of the subject is, of course, unavoidable, but whatever the cause or nature of the waste, it is a fact that it has now assumed proportions that are very great, and which makes the matter a very serious one to be considered. The quantity consumed at this time is at the rate of one hundred and nine (109) gallons per day for every man, woman and child in the city. This is at least double the quantity necessary for purposes of utility, comfort or health.

The matter of the waste of water is one I think it my duty to bring to the notice of your Honor and the board, that some measures be instituted to check the enormous waste, which is largely wilful waste. All other means having failed here as well as elsewhere, I know of no other plan to suggest than the introduction of the meter system. This has been adopted in other cities with good effect, and is gaining favor with water departments.

ELECTROLYSIS OF WATER PIPES.

This is a subject of which just at this time it is not possible to speak intelligently, farther than that from investigations already inaugurated the fact has been demonstrated that there is danger of corrosion of the

mains by the electrical currents seeking their source, and can only add that the matter will be closely watched, and any threatened danger carefully guarded against.

EXPENSES AND EXPENDITURES.

The expenses of the department as exhibited in the accompanying table are "as per bills passed in this office," and exceed the amount of the appropriation made for the year. This is explained in the items of the cost of work done, which was not contemplated or provided for, such as the extension of the pipes and erecting hydrants in Laurel Grove Cemetery, extending 6-inch main on South Broad street, east of Randolph street, on Gwinnett street and Paulsen street east of the Savannah, Florida & Western Railroad tracks. Paying carpenter bill for work on the new building, which was disputed and left over to be adjusted, and for the completion of the map of water mains, valves, &c. Also bill for work on steam pipes (to be recovered from engine builders) and laying new supply pipes to buildings of the Wilcox & Gibbs Guano Co's building on Bay street, (the last item was recovered into the City Treasury from the owners, but only appears as expenses in this report.)

Totals	EXPENSES AND EXPENDITURES OF THE WATER WORKS, AS PER BILLS PASSED IN SUPERINTENDENT'S OFFICE.											
	January	February	March	April	May	June	July	August	September	October	November	December
Running Account	\$1,551 20	625 70	197 35	190 33	615 33	298 02	142 64	1,136 02	60 32	462 33	455 14	24 51
Repairs Account	\$ 145 55	338 35	106 76	45 37	90 92	89 37	258 29	348 43	268 69	142 22	100 74	103 46
Connections Account			33 36	26 35	5 90	29 40	8 00	27 50	15 40	8 20	31 45	13 25
Cesspools Account	\$ 6 25	16 95										
Hydrants Account			37 47				87 34					
Incidentals Account	\$ 5 00				1 50							5 00
Insurance Account		20 60										
Map Account					325 95							
Extensions Account		63 60	11,062 75	1,014 41	1,582 46	1,108 82	724 94	1,052 07	523 01	358 54	224 48	271 49
Improvement Account	\$ 269 02	423 62			201 00							
Salaries Account	\$ 1,420 91	1,372 16	1,431 41	1,408 16	1,431 41	1,416 66	1,439 16	1,416 66	1,416 66	1,439 16	1,416 66	1,416 66
Totals	\$ 3,395 03	2,840 58	13,933 51	4,189 18	3,927 62	4,244 69	3,922 22	4,010 28	2,994 08	2,411 00	2,225 47	425 31
	\$41,122 62	\$15,606 51	\$9,530 94	\$27 49	\$25 95	\$12 243 66	\$20 00	\$12 00	\$12 00	\$12 00	\$12 00	\$12 00

1594

RECOMMENDATIONS.

Under this head I beg leave to again call attention to the fact that the pumping station cannot be properly lighted by oil lamps, and urge the great necessity of putting in a dynamo for the purpose of lighting by electric lamps, the cost of which will only amount to about twenty-two hundred and fifty (\$2,250). I believe the argument has been advanced that the water works has been run for years by lamp light. Of course, this is true, but they never occupied a building of the dimensions of the one now in use, and no man can keep up one of these engines (which work must be done while it is in motion, and is as apt to be necessary at night as at anytime) with a lamp in one hand and a wrench in the other hand. Besides, the amount of the cost of oil, lamps and fixtures as at present would be saved, and go far toward paying for the introduction of electric apparatus.

During the year I made a report to your Honor through the chairman of the water committee in reference to the leaky condition of the water gates on the discharge pipes and condensers. Since that report a crack has made its appearance in two of the strengthening ribs of one of the pump cylinders of Engine No 411. The fracture may have been in the casting from the beginning, but was not visible until lately, and may not extend any farther nor cause any trouble, but I would respectfully recommend that the attention of the Holly Manufacturing Company, the builders, be called to those defects at once, as the two years' guarantee given by them will expire about the latter part of March, 1895.

In conclusion of this report I take great pleasure in acknowledging the uniform kindness of your Honor and the members of the water committee and Council, also to give due credit to the employes under my supervision for the faithful performance of their work.

I am very respectfully yours,

JAS. MANNING,
Superintendent.

FINDING AIDS FOR WATER DEPARTMENT RECORDS



THE GEORGIA HISTORICAL SOCIETY

FOUNDED 1839

Administrative Offices
912-651-2125

Library & Archives
912-651-2128

Collection #: 5600WO
Name: City of Savannah - Water Operations Department
Dates: 1865-1942
Size: 28 volumes (13 cu. ft.)

Processed by: 1987; rev. by A. Wilson, 6/98

History:

The problem of providing a potable water supply to the city was repeatedly noted, until finally a study was conducted in 1850, which resulted in the building of a city water works. The water works was completed in 1854, and a filtration system was added in 1855 (Gamble, History of City Government, 1790-1901, pp. 215-17). A board of commissioners made up of the mayor, two aldermen, and three citizens administered the water works until control was transferred to the City Council's Committee on Water Works in 1880 (Code of Savannah, 1854, p. 457; Code of Savannah, 1888, p. 167-68; Gamble, p. 219).

To meet the growing needs of the city, a new water works was built in 1882 (Gamble, p. 219), and plans to drill artesian wells were implemented in 1886. The well drilling program proved to be ineffective and was abandoned by 1889 (Gamble, pp. 373-74). In 1936, the City Council elected a superintendent of the Water Works to head the Water Department, which was at this time under the supervision of the Committee on Water (Code of Savannah, 1936, p. 154). In 1989, the Water Operations Department was a division of the Facilities Maintenance Bureau and was responsible for providing water for drinking and fire protection (Urban, Serving Savannah, p. 30).

Scope and Content:

These records include record books, a minute book, a letter book, a ledger book, and a report by the U.S. Geological Survey.

MS 5600WO City of Savannah - Water Operations Department (cont.)

Series Descriptions:

5600WO-05

Minute Book - Water Works Board, 1865-1881

1 volume (.27 cu. ft.)

This volume is the minute book of the Board of Commissioners of the Water Works and contains the date of the meeting, members present, and the business conducted.

Arrangement: Chronological

5600WO-10

Letter Book - Water Works, (INDEXED) 1891-1893

1 volume (.27 cu. ft.)

This book contains copies of letters from Abbott Thomas, Engineer of the Water Works.

Arrangement: Chronological

5600WO-20

Daily Report Book - Water Works, 1892-1893

1 volume (.27 cu. ft.)

This book contains daily progress reports on water works projects, including charts. It also has inventories with usages delineated.

Arrangement: Chronological

5600WO-30

Monitoring Report Books - Water Works, 1902-1920

7 volumes (1.5 cu. ft.)

These records document the conditions at the water works pumping station and contain the date, steam in pounds, vacuum in inches, tons of coal used, hours each boiler was run per day, average revolutions per minute, number of revolutions per hour, number of gallons pumped in 24 hours, and the average depth in the wet wells. There are also monthly totals for coal usage, hours run, and gallons pumped, the average number of gallons pumped per 24 hours, average consumption of coal per 24 hours, and the number of gallons pumped per 100 pounds of coal.

Arrangement: Chronological

MS 5600WO City of Savannah - Water Operations Department (cont.)

Inventory:

Vol. 1	1902-1909	Vol. 5	1910-1920
Vol. 2	1907	Vol. 6	1914
Vol. 3	1909-1910	Vol. 7	1916
Vol. 4	1909		

5600WO-40

Artesian Well Record - Water Works, 1913(?)

1 volume (.27 cu. ft.)

This volume records the location, owner, and depth of private artesian wells in the city. (very few entries)

5600WO-50

Payroll Ledger Book - Water Works, 1940-1942

1 volume (.27 cu. ft.)

This volume lists the employee's name, position, service, wage rate, amount, deductions, balance due, check number, and monthly totals for the department.

Arrangement: Chronological

5600WO-60

The Water Supply of Savannah, Ga. by R.B. Dole, 1915

1 volume (.27 cu. ft.)

This report is the result of a study conducted by the U.S. Geological Survey and consists of a brief history of Savannah's water works, an in depth description of the present water system, and some ideas for the future development of this system.

5600WO-70

Meter Records, 1904-1907

1 volume (.27 cu. ft.)

This volume records monthly water usage by citizens of Savannah and contains the name and address of the user, present meter reading, the previous reading, cubic feet used, rate, and amount owed.

Arrangement: Chronological

MS 5600WO City of Savannah - Water Operations Department (cont.)

5600WO-80

Meter Book, (INDEXED) 1913

1 volume (.27 cu. ft.)

This volume records water usage by businesses in Savannah. It contains the company name and address, the year, month, number of cubic feet used, the amount owed, and the date paid.

Note: Created by the Department of Water Works.

Arrangement: Alphabetical by company name

5600WO-90

Water Works Payment Journal, 1878-1881

1 volume (.34 cu. ft.)

This journal records various payments to the water works, primarily water rents. These payments are described as sundries. The volume contains the name and address of the water user as well as the amount paid. There are also references to other volumes (not in the collection) which record these payments.

Note: Created by the Department of Water Works.

Arrangement: Chronological

5600WO-100

Water Works Customer Account Ledgers, 1882-1914

12 volumes (9 cu. ft.)

Water rents were payable semi-annually at the office of the Committee on Water Works. Executions against persons failing to pay the rents were directed to the City Marshall. These volumes record the customer's name, street, ward, value of the property, annual rent, date of payment, amount of payment for each six-month period, and remarks.

Arrangement: Alphabetical by customer's surname

Inventory:

Vol. 1	1882-1884 (A-M)	Vol. 7	1896-1899
Vol. 2	1882-1884 (Mc-Z)	Vol. 8	1899-1902
Vol. 3	1884-1886 (A-M)	Vol. 9	1902-1905
Vol. 4	1884-1886 (Mc-Z)	Vol. 10	1905-1908
Vol. 5	1887-1890	Vol. 11	1908-1911
Vol. 6	1891-1896	Vol. 12	1911-1914

**Archival Records
City of Savannah, Georgia
Clerk of Council**

Records held in the City Hall Records Center, Administered by the Municipal Research Library

COLLECTION NAME:	City Council Meeting Papers
COLLECTION DATES:	1859-1941
RECORD SERIES:	0115-001
RECORD SERIES BOX #s:	0115-001-A1 through 0115-001-A396
GROUP NAME:	Water Committee Papers
GROUP DATES:	1865-1932
GROUP ABBREVIATION:	WAT
GROUP BOX #s:	WAT 1 through WAT 4
GROUP SIZE:	4 Hollinger Boxes (legal) 29 Folders (legal)
RECORD SERIES BOX #:	0115-001-A393 through 0115-001-A396

RECORD GROUP SCOPE NOTE:

The first section of this record group contains papers from the standing committee of the City Council on Water. These Water Committee papers include petitions made before the Council between 1866 and 1932 and referred to the Water Committee for handling. Each petition contains the request, and any supporting documentation such as maps and drawings, sent before Council, and the report and decision made by the Water Committee.

The second section of this record group contains miscellaneous reports, from 1868-1930, regarding the condition of Savannah's water supply, correspondence sent to the Water Committee and miscellaneous papers regarding the Water Department budget and position appointments. General subjects include laying water pipe, extending sewer lines and adding additional fire protection, i.e., hydrants.

Finally, the third section of this record group contains the papers, submitted between 1865 and 1890, to the Committee on Gas. This committee was under the jurisdiction of the Water Committee and includes petitions and reports on erecting gas lamps in the City; contracts for lighting the City; reports on the number of lights and condition of the lamps; duties of the Savannah Gas Light Company; lighting Forsyth Park; pay deduction for not lighting the City; and gas pipes for lighting the streets.

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Prepared: July 1997

Revised: December 1997

Archival Records
City of Savannah, Georgia
Clerk of Council

1

Records held in the City Hall Records Center, Administered by the Municipal Research Library

City Council Meeting Papers (0115-001), 1859-1941

Water Committee Papers (WAT), 1865-1932

INVENTORY:

BOX # WAT 1 [0115-001-A393]

Folder 1: Petitions, 1866-1869.
Folder 2: Petitions, 1870-1872.
Folder 3: Petitions, 1873-1876.
Folder 4: Petitions, 1877-1880.
Folder 5: Petitions, 1910-1912.
Folder 6: Petitions, 1913.
Folder 7: Petitions, 1913.
Folder 8: Petitions, 1914.
Folder 9: Petitions, 1915.

BOX # WAT 2 [0115-001-A394]

Folder 10: Petitions, 1916.
Folder 11: Petitions, 1917-1918.
Folder 12: Petitions, 1919.
Folder 13: Petitions, 1920-1921.
Folder 14: Petitions, 1922-1925.
Folder 15: Petitions, 1926-1928.
Folder 16: Petitions, 1929-1930.
Folder 17: Petitions, 1931-1932.

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Prepared: July 1997

Revised: December 1997

Archival Records
City of Savannah, Georgia
Clerk of Council

2

Records held in the City Hall Records Center, Administered by the Municipal Research Library

City Council Meeting Papers (0115-001), 1859-1941
Water Committee Papers (WAT), 1865-1932

BOX # WAT 3 [0115-001-A395]

Folder 18: Miscellaneous reports and correspondence, 1868-1870.
Folder 19: Miscellaneous reports and correspondence, 1871-1875.
Folder 20: Miscellaneous reports and correspondence, 1876-1879.
Folder 21: Miscellaneous reports and correspondence, 1880; 1883; 1897.
Folder 22: Miscellaneous reports and correspondence, 1901-1915.
Folder 23: Miscellaneous reports and correspondence, 1916-1930.

BOX # WAT 4 [0115-001-A396]

Folder 24: Committee on Gas, 1865-1866.
Folder 25: Committee on Gas, 1867-1868.
Folder 26: Committee on Gas, 1869-1870.
Folder 27: Committee on Gas, 1871-1872.
Folder 28: Committee on Gas, 1873-1874.
Folder 29: Committee on Gas, 1878-1880; 1890.

SOURCES CONSULTED

Annual Report of John Schwarz, ...for the Year Ending December 31, 1890...
Savannah: The Morning News Print, 1890. City of Savannah Research Library and Municipal Archives, City Hall, Savannah, Georgia.

Annual Report of John J. McDonough, ...for the Year Ending December 31, 1891... Savannah: The Morning News Print, 1892. City of Savannah Research Library and Municipal Archives, City Hall, Savannah, Georgia.

Annual Report of John J. McDonough, ...for the Year Ending December 31st, 1892... Savannah: The Morning News Print, 1893. City of Savannah Research Library and Municipal Archives, City Hall, Savannah, Georgia.

Annual Report of John J. McDonough, ...for the Year Ending December 31, 1893... Savannah: Braid & Hutton, Printers and Bookbinders, 1894. City of Savannah Research Library and Municipal Archives, City Hall, Savannah, Georgia.

Annual Report of John J. McDonough, ...for the Year Ending December 31, 1894... Savannah: Braid & Hutton, Printers and Publishers, 1895. City of Savannah Research Library and Municipal Archives, City Hall, Savannah, Georgia.

City of Savannah, Georgia City Council Meeting Papers-Contracts (Record Series 0115-002), Box #CON 5 [0115-002-21], Folder 27, Contract #371, Sheets 1-6. City of Savannah Research Library and Municipal Archives, City Hall, Savannah, Georgia.

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