

W. P. Gregg

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CITY OF BOSTON.



FIRST QUARTERLY REPORT

OF THE

JOINT STANDING COMMITTEE ON WATER.

In Common Council, September 24, 1846.

Laid on the table, and ordered to be printed.

Attest,

W. P. GREGG, *Clerk C. C.*

The Joint Standing Committee on Water in obedience to the provisions of the Ordinance, submit their

FIRST QUARTERLY REPORT,

Containing a general statement of the progress made in the construction of the Aqueduct, since the appointment of the Commissioners, to the present time.

The Water Commissioners received their appointments on the 4th day of May, and entered immediately upon the duties of their office. Their first care was to organize the Engineering Department. For the purpose of ensuring the aid of the best scientific talent and skill, matured by experience, they appointed John B. Jervis, Esq. Consulting Engineer, believing that by so doing they provided for the execution of the work in the shortest period compatible with a true economy. His duties are to advise and assist the Commissioners in all the plans of the work, in the arrangement of its details, and in deciding upon and directing the modes of execution, visiting the work, and giving it his personal attention as often as will enable him to be acquainted with all the features of it, and the steps in its progress. They appointed also two Chief Engineers, who are entrusted with the immediate superintendence and execution of the work, in two distinct departments, devoting to it their exclusive attention. One of these departments consists of the Aqueduct, extending from Cochituate Lake to the Main Reservoir in

the vicinity of the City; and the other embraces the pipes for the introduction of the water from the Reservoir to the City—the Reservoir in the City—and the distributing pipes.

E. Sylvester Chesbrough, Esq. was appointed Chief Engineer of the Aqueduct Department, and William S. Whitwell, Esq. Chief Engineer of the City Department. All these gentlemen accepted their respective appointments at a salary of three thousand dollars per annum.

Under the direction of the Chief Engineer of the Aqueduct Department, three Engineering parties were organized, each under the superintendence of a Resident Engineer, for the exploration and survey of the routes deserving examination, and the final location of the line of Aqueduct. Each of these local Engineers was furnished with a sufficient number of assistants to constitute a surveying party, and to each was assigned the survey of a division of the line of Aqueduct, under the immediate direction of the Chief Engineer, and the general direction of the Commissioners. The divisions are each about five miles in length.

The Commissioners gave their early attention to obtaining the exclusive right to the waters of the Cochituate Lake or Long Pond. After a careful examination of the premises, and by the advice of gentlemen competent to judge of the value of the property, they concluded a negotiation with Mr. Knight, for the purchase of the waters of the Pond, the two water privileges on the stream discharging therefrom, and also his manufacturing establishments, including the mills, buildings, machinery, fixtures, and dwelling-houses occupied by operatives.

For this property, the Commissioners agreed to pay Mr. Knight the sum of \$150,000, and at the same time contracted with him to place in the establishment a steam engine, of sufficient power to supply the place of the water, whenever it should be withdrawn, and to lease it to him at a rent of \$9000 per annum—the fuel and expenses of working the engine to be at the charge of the lessee, who is also to keep the same and the establishment in repair, and to pay the taxes—and the City to be at liberty to divert the whole, or any part of the water, at pleasure.

The Commissioners, not considering themselves invested with power to enter into this contract in all its parts, by their own authority, asked the approval and ratification of it by the City Council, in a communication dated June 15, 1845, and in this communication the Commissioners stated the terms and conditions of the proposed contract, with their views and motives for entering into it. In pursuance of the suggestion in that communication, a special ordinance was passed by the City Council, authorizing the Water Committee to complete the said purchase and lease, and such other purchases for the execution of the Water Works, and for the disposal of the property so purchased as in the opinion of the Water Commissioners, and of the Joint Standing Committee on Water, shall be deemed expedient. In pursuance of the authority thus granted, the contract was executed in conformity with the recommendations of the Commissioners, and with the approval of the Committee. A deed, conveying to the City the title in the premises, has been obtained, and the lease to Mr. Knight, on the conditions stated has been executed by the Mayor of the city, for a term of three years.

For the purpose of establishing a distributing reservoir, to facilitate the delivery of the water in all parts of the City, under as high a head as is practicable, the Commissioners obtained a lot of land situated on Beacon Hill, in the rear of the State house, between Mount Vernon and Derne streets, and between Temple and Hancock streets. This lot, containing over 17,000 square feet of land, was purchased of John Hancock, Esq. for the sum of \$35,376. With the addition of some small adjoining tracts, which the Commissioners hope to obtain, this site will admit of the establishment of a reservoir, which will contain nearly a million and a half of gallons, with a water surface at an elevation of twenty-five feet above the level of the highest street in the City.

The Chief Engineer for the City Department has been engaged in the making of plans and estimates for the construction of the reservoir, and for the arrangement of the system of distribution, in which much progress has been made. He has also been engaged in superintending the construction of an accurate plan of the City, upon a large scale, and from actual surveys.

On the 10th July, the Commissioners having examined the reports, drawings and profiles of the surveys on the upper division of the Aqueduct and having examined also the several lines surveyed, assisted by the Chief and Consulting Engineer, decided on the route which they deemed preferable, from the Pond to a point in the easterly part of Needham, a distance of about five miles. This part of the line was then staked out, and prepared for contracts for the grading. Proposals for contracts having been invited by advertisement, a large number of com-

petitors made offers for the execution of the work, and it was let out on satisfactory terms. The ceremony of breaking ground by the Mayor, took place on the 20th of August, in the presence of the members of the City Council, and a large number of our citizens. The contractors have since prosecuted the work with much vigor, and have now a large working force employed upon it, under the immediate superintendence of the local Engineer of that division and his assistants.

The surveys in the mean time have been diligently prosecuted on the two other divisions of the Aque-duct by the respective Engineering parties, and they are nearly prepared for enabling the Commissioners to decide on the final location along the whole line. The Commissioners have within a few days past come to the important decision of adopting a route through Newton and Brookline, which will require the excavation of two tunnels, one 2,300 feet, and the other 1,100 feet in length, and the establishing of a reservoir near the residence of John E. Thayer, Esq. in Brookline. The advantages of this route over that which was indicated by the earlier surveys, terminating at Corey's Hill, it is believed are more than sufficient to countervail the cost of tunneling. These consist of a material shortening of the distance, the dispensing with the necessity of a pipe communication across the Brighton Valley, the obtaining of a more capacious and eligibly situated reservoir, at a slightly increased distance from the City, a higher elevation in consequence of dispensing with the pipe communication at Brighton, and a saving on the amount of damage to the estates pass-

ed through, in consequence of the secluded tract of country, and the inferior value of the lands through which the route passes. The residue of the line from Needham to the proposed reservoir in Brookline is so nearly ready for being placed under contract, that the Chief Engineer has been authorised to advertise that it will be ready for examination preparatory to offers for contracts, by the 5th of the ensuing month. It is the intention of the Commissioners that contracts for the grading of the whole line shall be entered into without delay, that every section of it shall be in progress of active execution before the close of the season, and whenever necessary for its early completion vigorously prosecuted during the winter. The work of the tunnel will be carried on, through a sufficient number of shafts to insure its completion within such period as not to retard the final completion of the work.

Attention has been given by the Commissioners, to the mode and time of making purchases of the principal materials required in the execution of the works, viz: bricks, iron pipes, and cement; purchases have been made of bricks to the amount of over three millions, a portion of which are already delivered, and contracts have been made for further supplies, to be delivered in the spring.

A contract has been made for the laying of a portion of the brick Aqueduct, with contractors who executed considerable portions of work on the Croton Aqueduct. They will enter upon the execution of their contract immediately, with the advantage of experience already acquired, and the work thus commenced will serve as a sample for those who may be disposed to examine it, and to become com-

petitors for contracts on other portions of the line. This work it is proposed to let out, as soon as the necessary advance in the grading shall be made, to the best bidder, in a manner to be hereafter announced.

The expenditures to the present time, consisting in a great part of the purchases of the water-rights, and of the site for a reservoir in the City, amount to \$205,613 82. No expenditures have yet been made for the grading, but the payments for this account will commence at the end of the present month.

The foregoing statements are derived from the monthly reports made by the Water Commissioners, agreeably to the provisions of the ordinance. And your Committee would conclude by expressing their satisfaction with the course adopted and the progress thus far made in the prosecution of this great work.

For the Committee.

JOSIAH QUINCY, JR., *Chairman.*