

SPECIAL REPORT

OF THE

WATER COMMISSIONERS,

AND REPORT OF THE

JOINT SELECT COMMITTEE

TO WHOM THE REPORT WAS REFERRED;

TOGETHER WITH

Votes as Passed the Common Council Board,

ON THE PROJECT FOR ADDITIONAL FACILITIES FOR  
SUPPLYING THE CITY OF HARTFORD  
WITH WATER.

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HARTFORD.

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1860.

## Special Report of the Water Commissioners.

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OFFICE WATER WORKS,

HARTFORD, April 16, 1860.

*To the Hon. the Mayor, Aldermen, and Court of Common Council  
of the City of Hartford:*

At a meeting of the Court of Common Council, January 23d, 1860, in response to a communication from the Water Board, recommending that measures be taken immediately for making such additions to our present means for obtaining water, as will render the supply more sure and permanent, it was Voted—"That the Water Commissioners be, and are hereby authorized and directed to provide for furnishing an additional supply of water for the City of Hartford, in some *efficient* and *proper* manner."

The Commissioners beg leave respectfully to remark that, during the course of the last twelve months, they have had this subject under special consideration. In prosecuting their investigations, they have understood it to be, in the language of a former report—"their first business to satisfy themselves as to the proper source for procuring water, embracing three distinct and important points; an abundant and never failing supply, a quality unexceptionable, and finally, the cost of obtaining it."

The plan which the Commissioners are prepared to recommend, as the result of their labors, and combining to a greater degree than any other, the important requisites to works of this kind, efficiency, permanence, and economy, is to gather into a Reservoir of suitable dimensions, certain waters found at an elevation in West Hartford of two hundred and fifty feet above the Connecticut River, or one hundred and twenty-five feet higher than our present Reservoir, about five miles distant from it, and conveying the water to the City by a 12 inch pipe, connecting with those now in use, and so arranged as to supply the whole City directly from this source, or to supply our present Reservoir for consumers in the lower portions of the City, and the upper portions direct from the Reservoir in West Hartford, as circumstances may require.

Some reasons creating the necessity for increasing the present capacity of our Water Works have been briefly stated in a former communication to your Honorable Body, such as the liability of all machinery, though perfect and effective in operation, to accident at any time, the most unfavorable, as well as the best, in which pumping can be dispensed with for repairs; this, with the limited capacity of our Reservoir, in case of fire for instance, would place the City at the mercy of this element with no power to arrest its progress.

The insufficient elevation of the Reservoir is also a source of great inconvenience to consumers on the higher portions of the City, many of whom can not obtain the water except when the Reservoir is filled to its greatest height, and this difficulty will continue to increase in proportion as consumption multiplies in the lower sections of the City, by reducing the head or power to deliver the water. There are now parties desiring to participate in the advantages of this work who are deprived the privilege, solely for want of sufficient head in the Reservoir to convey the water to them, and yet they are taxed for its support.

The requisite surveys, executed by Seth E. Marsh, Esq., Engineer, of the proposed site for a reservoir in West Hartford, settle the fact, that the erection of a suitable dam will convert a natural basin into a reservoir, covering a water area of 25 acres, with an average depth of 16 feet, and a capacity of 125,000,000 gallons, equal to 4 months supply at present rate of consumption, and at an altitude exceeding our present reservoir 125 feet; an elevation sufficient to supply all portions of the City and its vicinity, the head being at different points as follows:

On the Farmington road at West Hartford street,	116 feet.
“ “ “ front of Vanderbilt’s residence,	83 “
On Main St. near Arsenal gate,	169 “
“ “ “ Tunnel,	192 “
“ “ “ Trumbull,	177 “
“ “ “ Temple,	182 “
“ “ “ front of State House,	191 “
“ “ “ at the Stone Bridge,	208 “
“ “ “ by the South Church,	198 “
“ Washington St. at junction of Buckingham,	168 “
“ “ “ at junction of Park,	169 “
“ “ “ front of Retreat for the Insane,	141 “
“ highest point on College grounds,	165 “
“ Spring St. corner of Myrtle,	177 “
“ Front St., at junction of State,	223 “
“ “ “ “ Morgan,	226 “
“ Pleasant St., at junction of Winthrop,	193 “
“ “ “ “ Windsor,	221 “

With this powerful head, the Fire Hydrants will be more effectual in subduing fires than the Fire Engines now in use.

In regard to permanence, estimates from careful and reliable examinations of the quantity of water running in the stream show, that with such ample facilities for storage, which can be increased

by a succession of reservoirs, the City can depend upon a permanent uninterrupted supply with double the number of its present population.

An analysis of the water by M. C. Weld, Esq., chemist, shows the water to be of a pure quality, and to use his own words "for the purposes designed *entirely* unexceptionable."

The total cost of construction, in accordance with the foregoing plan, including Land, Reservoir, Pipe, Gates, Labor, &c., with ample allowance for contingencies, will probably not exceed the sum of \$85,000, finished complete.

In order to procure means for the construction of additional facilities for supplying the city with pure and wholesome water, your Commissioners respectfully recommend that application be made to the next session of the General Assembly for authority to loan the credit of the City to an amount not exceeding \$100,000, and for a time not exceeding twenty-five years.

All of which is respectfully submitted,

For the Commissioners,

HIRAM BISSELL, *President.*

## Report of the Joint Select Committee.

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HARTFORD, JUNE 11th, 1860.

*To the Court of Common Council:—*

The Committee to whom was referred a vote authorizing and directing the Water Commissioners to proceed to introduce an additional supply of pure and wholesome water into the City of Hartford, in accordance with the plan specifically detailed in their report of the 16th day of April; also, vote authorizing and directing the Mayor to warn a meeting of Electors of the City to meet in their ward to vote "Yes" or "No" on the resolution authorizing the Water Commissioners to introduce an additional supply of water from West Hartford, respectfully report:

Since our appointment as said Committee, we have visited the stream in West Hartford from which it is proposed to take the water, in company with the President of Water Commissioners, Mr. Swift, an engineer from Jersey City, F. T. Stanley, Esq., of New Britain, and other gentlemen from this City.

From our brief examination there, together with information we have obtained on the subject from persons familiar with the stream, we think there is no reasonable doubt that, with one or more reservoirs of the capacity proposed, a sufficient supply of water can be secured to meet the present and any prospective wants of the City for a long time to come.

The quality of the water, although not as pure as our present supply from the Connecticut River, is represented as comparing

favorably with the quality furnished to most other cities. It has been objected to that source of supply, that the collecting and retaining the water in the dry season will cause it to become impure, and that difficulties have been experienced in some cities from that cause; but it is claimed that it has been owing to the reservoirs not having been properly prepared, by the removal of the soil and vegetable matter subject to decomposition. The ground proposed for this reservoir is well adapted to be cleansed of such objectionable matter, and this would probably lessen and possibly remove that objection to the proposed project.

In relation to our present supply, your Committee believe that but very few families in the city, desirous of obtaining the water, cannot be supplied by our present Water Works. There are elevated grounds in the present city limits which cannot be supplied by the elevation of our present reservoir, and with an extensive fire a greater head would be very desirable.

If these high points cannot be supplied, except at an expense which the city are unwilling to incur, justice requires that our Water Rents should be so revised as to relieve such property from taxation for that purpose, and we think good policy and equity would be consulted by raising from Water Rents a sum sufficient to defray the annual expense of the works.

In relation to the danger of injury to the present engine and boiler, by which our supply would fail us, we have the written opinion of the makers of the engine, in which they say that they consider it "a matter of minor importance, as there is every probability that the present engine which has operated for about five years successfully, will continue to do so without danger, if carefully managed, for twenty years to come. We should have very little fear of a break-down, except through gross carelessness, and the increased load necessary for doubling the supply, will add very little if any to the danger from accidents." Of the accuracy of

their judgment in the matter, the Committee have no better means of judging than any of their fellow citizens.

Messrs. Woodruff & Beach offer to contract "to replace the present pumps with a new set, of capacity sufficient to supply two millions of gallons of water in twelve hours, with all necessary appurtenances and connections, and couple them ready for operation, for Five Thousand Dollars (\$5000) and the old materials, and that the city shall not be deprived of the use of the pumps for a longer period than three days." They also agree to contract "to duplicate the present engine and boiler with pumps of ample capacity to double the present supply, or to deliver into the city reservoir two millions gallons in twelve hours, for the sum of Twenty-five (25) Thousand Dollars;" and it is understood that for the sum named in this proposition, they agree to do all the work, furnish all the materials, and erect the engine and pumps on their foundations, and make the proper connections with the present force tube, and leave it ready for operation without any extra expense to the city whatever.

The consumption of water for the present year, it is estimated, will reach nearly 1,000,000 gallons per 24 hours. The present engine with the present pumps supplies that quantity in 12 hours, and except for extensive fires and accidents to the engine, we should be fairly supplied with water in all parts of the City which can be reached with our present head. Our reservoir contains, when full, Eight Millions of Gallons, but if the supply for any cause should be stopped for three or four days, many parts of the City would be short of a full supply. If the new pumps were supplied and proved adequate to raising twice the present quantity of water, the additional expense for fuel would be about in the same ratio. The President of the Water Works estimates there would be a saving of from 2 to 3000 dollars per year, in fuel and expenses at the Engine House, by introducing the water from West Hartford.

If our citizens decide to incur the expense necessary to increase the head, so as to supply the highest parts of the City, either by bringing the water from West Hartford, or by a new reservoir and force tube, we think the former of the two plans would be most economical in its operation and best for the City to adopt; although, with our means of judging, we think some items in the estimate of the Commissioners will prove to be much below the actual cost.— We are quite confident if the water is to be introduced from West Hartford, that good policy would be consulted by using a 16 or 18 inch pipe instead of 12 inches as proposed; it will not add greatly to the expense, and if the supply from that source should prove adequate, the large pipe will furnish an ample supply for any prospective wants of the city for many years.

The Committee have devoted themselves to obtaining such facts as they could collect, and have embodied them in this report as a means of furnishing our citizens information on which they can intelligently act on the question, and report back the resolutions without any recommendations as to their passage.

CALVIN DAY,  
FREDERICK S. JEWETT,  
SYLVESTER BISSELL,  
JULIUS YOUNG.

## Votes as Passed the Board of Common Council.

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VOTED, *by the Court of Common Council*:—That the Water Commissioners be, and hereby are authorized and directed to proceed to introduce an additional supply of pure and wholesome water into the City of Hartford, in accordance with the plan specifically detailed in their report to this Court, dated the 16th day of April, 1860.

VOTED, *by the Court of Common Council*:—That the Mayor be, and hereby is authorized and directed to warn the Electors of the City in the manner provided by law for warning City Meetings, to meet in their respective Wards, on Saturday, the 23d day of June, 1860, to vote "Yes" or "No" upon a certain resolution passed by this Court, authorizing the Water Commissioners to introduce an additional supply of water from West Hartford.

VOTED, that the Mayor be, and hereby is directed to appoint presiding officers to preside at the Ward Meetings aforesaid, and that said presiding officers so appointed by the Mayor be, and hereby are directed to return to the City Clerk, without unreasonable delay, the number of votes cast in favor and against said resolution of the Court of Common Council, in their respective Wards.

VOTED, also, that the City Clerk be, and hereby is directed to cause to be printed with the words "Yes" and "No" a sufficient number of ballots for the use of the Electors at said meeting, and that the Messenger of the Board of Alderman and the Messenger of the Common Council Board be, and hereby are directed to place a sufficient number of these ballots at each of the voting places of the several Wards at or before ten o'clock in the morning of said 23d day of June, 1860.