

State of New York
Conservation Commission

Water Supply Application No. 191.

VILLAGE OF WESTVILLE

DECISION

1

ORIGINAL

FILED July 15 1915
STATE OF NEW YORK
CONSERVATION
COMMISSION. *10*

State of New York
Conservation Commission

Water Supply Application No. 191.

In the Matter of the Application
-of the-

VILLAGE OF WELLSVILLE

for approval of its acquisition of
the existing water system of the
Wellsville Water Company, and of
its acquisition of a source of water
supply and of its financial and engineer-
ing plans for the construction of a
water supply system.

D E C I S I O N

Application filed May 26, 1915.

Hearing held in Wellsville June 17, 1915.

Decision - July 15, 1915.

APPROVED.

DECISION ON WATER SUPPLY APPLICATION NO. 191.

John A. Wetherby, President of the Board of Trustees of the village of Wellsville, acting on behalf and in the name of that village, on May 24, 1915, made application to the Conservation Commission for its approval of the purchase by said village of the existing water supply system therein, now owned by the Wellsville Water Company, the acquisition by said village of a new source of water supply and of the plans for various additions and extensions to said water supply system. This petition was filed in the office of the Conservation Commission May 26, 1915.

On April 10, 1913, the Commission had already caused the proposed source of water supply, the sites of some of the proposed works and the existing water supply system to be inspected by one of its engineers and, on June 17, 1915, the sites of the works which the village now proposes to build were again inspected by this same engineer.

After due notice published in the Wellsville Daily Reporter and the Allegany County Democrat a hearing was held on this application in the Trustees' Room in the Village Hall in the village of Wellsville on June 17, 1915, at 10:00 o'clock in the morning. At this hearing the Commission considered the petition, maps and plans submitted, examined witnesses and heard arguments for the project as shown by the minutes. The petitioner was represented by Francis B. O'Connor, Village Attorney, and by the entire Board of Water Commissioners, namely: George A. Rosa, Chairman, F. B. Boyce, James Higgins and J. L. Moore. No objections were filed and no one appeared in opposition.

The Wellsville Water Company has agreed to sell its entire

waterworks system to the village of Wellsville for the sum of \$75,000.00. The village proposes to accept this offer, to purchase and thereafter to operate and maintain said system, and also to build various extensions thereto and to obtain a new and additional supply of water therefor from the Genesee river.

Some 3200 feet upstream from the present waterworks pumping station a low pile and plank diverting dam is to be constructed across the Genesee and at the east abutment thereof a concrete intake chamber is to be built, into which the water of the river will flow and from which it will be conducted by gravity through 3200 feet of 16-inch supply main. This supply main is to be of steel banded wooden pipe, except where passing through concrete walls at the terminal structures and under the river, where it is to be of 16-inch cast-iron. Near the present pumping station a pump well is to be sunk in the ground, this structure to be 10 feet in diameter by 20 feet deep with brick walls and floor and reinforced concrete roof. The top of the curb is to be 11 feet above the ordinary water level in the river. Water is to be delivered to this well through the 16-inch pipe mentioned above and taken from it through a 12-inch wrought iron suction pipe.

A new brick coal room is to be constructed adjacent to the south end of the present pumping station building. The present pump room is to be enlarged to accommodate new pumping machinery. All pumps and engines now in use are to be continued in service as reserve units. A new triplex plunger pump of 1.5 million gallons per day capacity, driven by an electric motor, is to be erected in the addition to the pump room. Current to operate this pump is to be furnished by the generators now owned by the Wellsville

Electric Light & Power Company, but which are also to be purchased and operated by the village. These pumps will force the water through 3908 feet of 12-inch cast-iron force main to the new storage reservoir and filtration plant.

On a hill west of the village a 3 million gallon storage reservoir is to be constructed. This is to be a circular basin 190 feet in diameter by 15 feet deep, with vertical reinforced concrete walls and a concrete floor. The flow line of this basin is to be 250 feet above the surface of the river at the pumping station and 222 feet above the intersection of Madison and Main Streets. This reservoir is to serve as a reserve in case of breakdown or other interruption to service at the pumping station and also to allow pumping to be discontinued during periods of high turbidity of the water of the Genesee river. If necessary this reservoir can be by-passed.

Adjacent to the storage reservoir is to be constructed a slow sand filter plant. This filter is to have three beds, each with a capacity of 250,000 gallons per day at a rate of 3 million gallons per acre per day. These are to be constructed with concrete bottoms, walls and piers and reinforced concrete roofs. Each bed is to have loose brick underdrains covered by 5 inches of graded gravel and 30 inches of sand. Suitable apparatus is to be provided for washing the sand. These filters are to be fed by gravity from the storage reservoir through a 12-inch cast-iron pipe, the flow being automatically regulated by a float valve, so that water on the beds will always be 3 feet deep on the sand. Each bed can be separately operated and the flow from each bed is to be measured by a venturi meter and the rate of flow and loss of

head through each bed separately indicated. The filter control house is to be constructed of brick with a tile roof. Provision is made for by-passing the filter.

From the filters the water is to flow through a 12-inch cast-iron pipe to a pure water reservoir. This is to be a circular concrete lined basin, 75 feet in diameter by 15 feet deep, holding 500,000 gallons; bottom and piers are to be of plain concrete, the walls and roofs of reinforced concrete. The normal flow line in this basin is to be at an elevation 200 feet above Main and Madison Streets. Connected with this basin is a brick gate-house and a venturi meter, installed on the outlet thereof, which will indicate and record the water consumption in the village. This basin is to be the principal reserve for the equalization of the fluctuations in the rate of consumption and to supply water for fires. It can, if necessary, be by-passed.

From the pure water reservoir to the distribution system a 14-inch cast-iron pipe line is to be laid. All together some five miles of new mains are to be laid in the streets of the village. These are to replace certain of the existing mains, to parallel and reinforce others, and also to extend into districts not now supplied with water. This new piping is to be of cast-iron, from 4 inches to 14 inches in diameter. In addition 52 new double nozzle fire hydrants are to be installed.

After due study of the petition and its exhibits, the evidence and arguments given at the hearing and the report of the engineers of the Commission, it appears as follows:

Wellsville is a municipality incorporated as a village in 1857 under the general Village Law, and still existing as such a

village. A separate Board of Water Commissioners for this village has been organized under the provisions of the general Village Law. Wellsville is situated in the southeast corner of Allegany county, at the junction of Dyke creek with Genesee river. It is traversed by the Erie and the Buffalo and Susquehanna railroads. In 1910 the population of this village was 4382; according to the petition it is now estimated at 4800. The assessed valuation of all taxable property therein by the last roll was \$1,648,073.00. This village has a bonded indebtedness of \$87,250.85, none of which has been incurred for water supply purposes.

Wellsville has been supplied with water by private enterprise since 1883. At present the waterworks are owned by the Wellsville Water Company. This is a domestic corporation existing and operating under the provisions of chapter 737 of the laws of 1873, having filed its certificate of incorporation with the Secretary of State September 29, 1883. This company has an outstanding bond issue of \$75,000.00, an issue of common stock of \$50,000.00, and a considerable floating indebtedness. The amount actually expended on the waterworks plant to April 1, 1913, was \$113,437.21. This company is the successor and assignee of W.S. Kuhn and his associates, who on the 30th day of August, 1883, were granted a perpetual franchise for the operation of a water supply system within the village and entered into a contract with the village for the supply of water for fire and public purposes for a period of thirty years from July 1, 1883. The water company, upon its organization, took over this contract and franchise. Associated with this company is the Wellsville Electric Light, Heat & Power Company, which uses the same plant. Both companies are controlled and managed by the American Water Works and Electric Company. Originally, the Wellsville Water Company obtained its supply

from an impounding reservoir on Crowner brook. This reservoir has a capacity of 5 million gallons and supplied the village by gravity. By injunction proceedings brought by an owner of riparian rights below the dam, the use of this water was restricted, and this supply was later supplemented by water pumped into the reservoir from the Genesee, the intake and pumping station being installed at the site of the present works. As the river water was objectionable its use was abandoned later, a number of wells were sunk along the left bank of the stream within the limits of the village, and the present pumping station erected. These wells are the present source of supply for the company. There are eight wells from 20 to 27 feet deep, driven into a water-bearing gravel, and one driven well 175 feet deep. A large dug well or collecting basin, about 19 feet in diameter and 16 feet deep, with a number of well points driven in the bottom, was later added. Water from the driven wells flows to this collecting basin and thence is pumped into the village mains. In 1905 the State Department of Health condemned the Crowner brook supply and the valve on the connection with this reservoir was closed and sealed by the village authorities. A suction pipe still extends into the Genesee, but it is used only in case of conflagration, and the valve thereon is ordinarily closed and sealed. The average amount of water pumped from these wells is about 500,000 gallons per day.

For some years the inhabitants of the village have complained of the quality of water from these wells. Analyses show that the water is somewhat hard, the iron content high and B. coli have occasionally been found. The large quantity of iron in this water causes trouble in the laundry. Deposits are formed which stop up

service pipes and reduce the capacity of the mains. Furthermore, the water of these wells has at times been thought to be contaminated with waste products from an oil refinery situated a short distance above them. Owing largely to this dissatisfaction with the quality of the water, there has been considerable agitation in the village for municipal ownership of the water works, either by the purchase of the existing plant or by the construction of a new system. The project discussed has been to acquire or parallel both the water and light systems of the village.

In the fall of 1910 the Wellsville Business Men's Association began an investigation of the waterworks question. In the spring of 1911 Charles C. Hopkins, a civil engineer of Rochester, was engaged by this association to report on the matter. In July, 1911, Mr. Hopkins recommended the installation of a gravity supply from Ford's brook, a stream which enters the Genesee above and south of Wellsville. Water from this stream was to be filtered by slow sand filters. It was estimated that a complete new water supply system could be constructed for about \$200,000.00. Thereafter the village authorities had negotiations with the water company, looking towards the installation by the company of purification works for the water supplied by it. The company claimed to be financially unable to put in these works unless an increased income was assured it, and this the village was not willing to do. It became evident that, as the contract between the village and the company would expire in October, 1913, no large investment in additional works could be made by the company unless this contract were to be renewed for a long term of years, a matter which could

not be done by the action of the Village Board, but which would require authorization by vote of the taxpayers. A joint committee from the Business Men's Association and the Village Board was then appointed to investigate the matter and in February, 1912, an informal vote was held on various alternative propositions. The results of this election indicated that those who cast their ballots thereat were strongly in favor of municipal ownership of the waterworks system and opposed to the renewal of the contract. After this election the Village Board appointed a citizen's committee of five to investigate and report on this matter. This committee employed George A. Johnson, a water works engineer, to advise it and, on February 24, 1913, reported that a majority of the committee was in favor of renewal of the contract with the company on condition that proper purification works be installed. Meanwhile, at the regular village election held March 19, 1912, the establishment of a Board of Water and Light Commissioners had been authorized. At the regular village election held March 18, 1913, another informal vote was held, all taxpayers being asked to express their preference as to the purchase and extension of existing works, construction of an entirely new waterworks system and renewal of the contract with the company. At this election 203, 125 and 39 votes were cast for these projects in the order named. Thereupon the Village Board proceeded to appoint a Board of Water and Light Commissioners, which had the same membership as at present. This Board immediately took up with the company the question of purchasing the water works, but for some time were unable to come to an agreement with it.

On April 4, 191³~~4~~, the Wellsville Water Company made application to the Conservation Commission for approval of the acquisition by said company of a new and additional source of water supply and of the construction of the works necessary to make such a supply available. This project involved the diversion of Genesee river water in the same manner as now proposed by the village. This water was to be filtered through a mechanical filter. Various extensions to the distribution system were to be constructed and also an elevated tank. Altogether the sum of \$27,163.24 was to be expended. This application was opposed by the village authorities. On July 8, 1913, it was duly approved by the Conservation Commission. By that time, however, the American Water Works and Guarantee Company was in financial difficulties and about three months later it went into the hands of receivers, and at the same time the contract of the village expired. This combination of circumstances made it impossible to carry out the proposed project.

In February, 1914, the Water and Light Commissioners engaged Mr. Hopkins to report on the cost of installing a municipal system. On April 15th the control of the water company passed into the hands of the American Water Works and Electric Company and negotiations were again opened with the village. On April 21st Mr. Hopkins made a report giving the cost of a new plant, and on July 3rd a valuation of the existing plant. Shortly thereafter the company offered to sell the water supply and electric lighting systems for \$136,000.00, the amount of indebtedness on the properties. The Water Commissioners offered to purchase for \$112,500.00 and on February 24, 1915, this offer was accepted, the purchase

price being divided into \$75,000. for the waterworks and \$37,500. for the electric lighting system. The amount to be paid for the waterworks system is the amount of the mortgage on the property. Mr. Hopkins valued it at \$84,206.00. At a meeting held April 26, 1915, the Board of Water and Light Commissioners, by resolution duly adopted, accepted the plans for additions to the existing system which had been prepared by Mr. Hopkins and petitioned the Board of Trustees to submit to the taxpayers of the village a proposition to purchase the water supply system for \$75,000., to expend \$104,000. in constructing additions and extensions thereto and to authorize the issue of village bonds in the amount of \$179,000. for these purposes. The Board of Trustees, on April 26, 1915, submitted these various propositions, together with similar propositions for the purchase of the plant of the electric lighting company, to vote at a special election held May 10, 1915. This election was duly held and the three propositions were carried in the affirmative. At the same time the purchase and enlargement of the electric lighting system was authorized. On May 10, 1915, the Board of Trustees authorized the making of the present petition to the Conservation Commission and the verification thereof by the Village President.

It appears that the present waterworks system is inadequate and that need exists for a more plentiful supply of better water and for works of greater reliability. It appears that, owing to the expressed unwillingness of the inhabitants of this village to enter into a long term contract with the water company, it will be financially impossible for that company to install the required additions

and improvements to this system. Therefore, it appears that the acquisition of and operation of this system by the municipality is desirable, as it will make possible the immediate extension and betterment of the system. This will be true even though for some years the municipal system will not show a profit, although the rates now in force are to be maintained. By the installation of meters on all connections and by the gradual reduction of the annual interest charge, it is possible that the time will come when these rates may be lowered. Such a time would probably never have come under private ownership, as the bonds of private waterworks companies are usually regarded as permanent investments and are seldom redeemed.

At the proposed point of diversion the Genesee has a watershed of about 180 square miles. On the basis of the lowest recorded run-off at St. Helena, the flow at the proposed point of diversion may be expected always to exceed 4.5 million gallons per day, an amount probably ten times that now used by this village. The proposed filters are to have a maximum capacity of 750,000 gallons per day, but this excess capacity is to permit of throwing one bed out of service for cleaning without causing a shortage of water. It appears that there will be enough water available at this point to meet the reasonable needs of the requirements of this village for many years to come.

In granting the application of the Wellsville Water Company for permission to take water from this stream at the same point, the Conservation Commission limited the amount which might be diverted to one million gallons per day. In view of the fact that

riparian rights, including at least one power development, will be affected by this diversion of water, it seems reasonable to impose some limit to the amount which the village of Wellsville may take. That amount, without the further consent of this Commission, will be limited to the capacity of the filter beds, which are now to be or may in the future be installed, computed at the rate of 3 million gallons per acre per day of filter surface actually in use; provided, however, that the amount drawn shall not exceed one million gallons in any one day. This amount is over twice the present consumption and is enough to meet the reasonable needs of a community materially larger than this one.

5mD-1/17/83
Above Wellsville the watershed of the Genesee is mostly farming country and woodland. It contains but one small village, that of Genesee in the State of Pennsylvania. Sanitary conditions on this watershed are not unfavorable to its use as a source of water supply, although the fact that the greater part thereof is in another State will prevent the complete protection of the purity of this water by the enactment of sanitary rules and regulations. Analyses of the water indicate that it is soft and generally satisfactory for domestic use, except that it shows traces of contamination from organic sources. By the enactment of rules and regulations for the protection of the sanitary condition of that portion of the watershed which lies within the limits of this State and by careful filtration through the filters which it is proposed to install, this water will be adequately purified and will be safe for all uses.

Mr. Hopkins has estimated the cost of the additions, improvements and extensions to the existing water supply system at

\$101,321.00, including land, rights of way and legal expenses.

This estimate appears to be reasonable.

The works, if carefully constructed, in accordance with the plans and specifications submitted, of suitable materials and with proper workmanship, will be safe and adequate for the purposes for which designed. A portion of the 16-inch supply main is to be made of wooden stave pipe. This material is lacking in durability and strength, but, in view of the fact that it is to be subjected to little or no pressure, and its failure need not cause serious interruption to the service, its use at this point will be approved.

The village is to acquire all the lands owned by the Wellsville Water Company, including that surrounding the present pumping station and wells and that about the original storage reservoir. In addition 0.05 acres of land are to be acquired, on which to erect the intake chamber, and a right of way from that point to the present pumping station, also 10.64 acres of land on which to erect the storage reservoir, filters and clear water basin and two rights of way on which to lay and maintain the force and supply mains. The amount of land is sufficient to permit of large increase in the capacity of the system.

Alternative sources of supply exist and have been reported upon by engineers employed by this village. Probably no other source of water supply could be made available, except at greater cost. Nevertheless, it is quite probable that the utilization of a gravity source of supply would be more advantageous to this village, except for the fact that the existing electric lighting plant is also to be acquired by it and hence the electric lighting and water pumping station will continue to be combined under one roof

and under one operating force, so that material economies can be effected in payrolls, supervision and operating expenses.

The effect of the carrying out of this project of the village of Wellsville will have no influence on the water supply interests of any other community in this State.

The legal damages which may be caused by the execution of the plans of the petitioner do not appear to be such as to require any special consideration or legislative enactment in order that they may be equitably determined and paid.

In consideration of the above, and subject to the modifications hereafter stated, the Commission therefore finds and determines:

First. That the plans proposed are justified by public necessity.

Second. That said plans provide for the proper and safe construction of all work connected therewith.

Third. That said plans provide for the proper protection of the supply and the watershed from contamination and for the proper filtration of such additional supply.

Fourth. That said plans are just and equitable to the other municipalities and civil divisions of the State affected thereby and to the inhabitants thereof, particular consideration being given to their present and future necessities for sources of water supply.

Fifth. That said plans make fair and equitable provisions for the determination and payment of any and all legal damages to persons and property, both direct and indirect, which will result from the execution of said plans or the acquiring of said lands.

Provided, however, that the said application, maps and plans as submitted shall be modified and the Commission does hereby determine that they be modified and that the work done thereunder be subject to the following conditions:

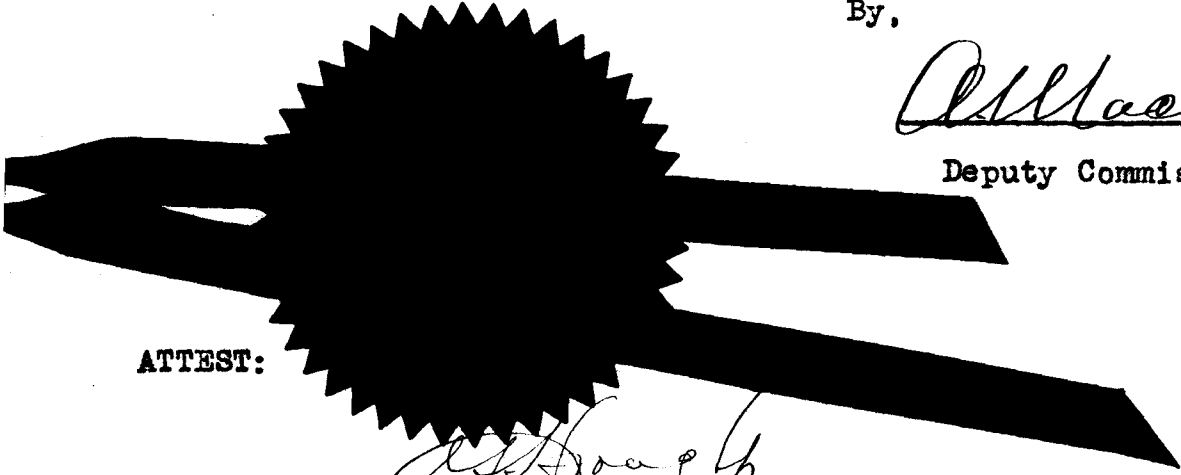
1. All the work proposed in this application shall be completely constructed in accordance with the plans as hereby revised.
2. After the construction of the proposed additions to the existing water supply system, except during a time of great emergency, no water shall be admitted to the distribution piping until it shall have been filtered to the satisfaction of this Commission.
3. With all convenient speed the authorities of the village of Wellsville shall obtain the enactment by the State Department of Health of rules and regulations for the sanitary protection of the watershed of the Genesee river above the proposed point of diversion and thereafter the provisions of these rules shall be diligently enforced by said village authorities.
4. The amount of water which may be diverted from Genesee river for the purpose of supplying the inhabitants of the village of Wellsville, shall at no time exceed the capacity of the filter beds actually in use, computed at the rate of three million gallons per day per acre of filter surface, and shall not, without further permission from this Commission, exceed the amount of one million gallons in any one day.
5. After these works have been constructed they shall be inspected by and be subject to the approval of this Commission, and such works shall not be operated until permit to do so has been issued by this Commission, as provided by section 523 of the Conservation Law.

WHEREFORE, the Conservation Commission does hereby approve the said application of the VILLAGE OF WELLSVILLE as thus modified.

IN WITNESS WHEREOF, the Conservation Commission has caused this determination and approval to be signed by the Deputy Commissioner and has caused its official seal to be affixed hereto and has filed the same with all maps, plans, reports and other papers relating thereto in its office in the city of Albany this 15th day of July, 1915.

CONSERVATION COMMISSION,

By,



Al Macdonald

Deputy Commissioner.

ATTEST:

John H. Gough

Secretary to Commission.