

WATER WORKS

By the end of the 1870's, the lack of an adequate supply of water for fire protection at the center of town had caused the fire department and property owners to seek a source of water for fire hydrants. This had resulted in the town's voting at the March town meeting of 1880 to appoint a committee "to consider the subject of introducing water from Shaw Pond, and report at a future meeting." Postmaster Emerson Stone, H. A. Grout, C. M. Tripp, Edward E. Kent, Thomas J. Comins, and David H. Barnes made up the committee. Except for Stone the members of the committee were the Board of Fire Engineers. Although not on the committee, Judge Luther Hill was very much involved in promoting Shaw Pond as a source of water. The committee hired Worcester's ex-mayor, Phineas Ball, a civil engineer, to make a survey of Shaw Pond and report on the quality and quantity of the water and the practicality and cost of bringing the water to Spencer.

The selection of Shaw Pond as a possible source of a public water supply was not an accident. At the time, the pond, which is located in Leicester and flows northeast into Spencer, was owned by Richard Sugden. This pond provided water for his wire mills in Upper and Lower Wire Village, as Shaw Pond Brook empties its water into Turkey Hill Brook, along which Sugden's mills were located.

Luther Hill was a close friend of Richard Sugden. Hill, although not a wealthy man, was the single most politically powerful man in Spencer from the 1860's into the 1890's. Hill had taken charge of the Branch Railroad and pushed it to completion. He would do the same with the water works.

In November the committee that had been appointed at the March meeting made a favorable report on the use of Shaw Pond to the town, but no action was taken at the meeting. The following month, opposition to the Shaw Pond project appeared. Some felt that fire protection was all that was needed, and this could be supplied more cheaply by installing pipes only in the downtown area connected to a permanent steam pump at Cider Mill Pond. This group, led by Joseph W. Temple, felt Spencer was not large enough to support a public water supply.

Another suggestion, championed by George A. Craig, was to make Whittemore Pond the source of the water supply. Water would be pumped from the pond to a reservoir constructed on the high ground near the present location of Lake Street School. Gravity would then distribute the water throughout the town. Craig felt that one day of pumping would provide enough water for a full week. Mention was also made of pumping water from Whittemore Pond to a reservoir built on top of Lincoln Street.

At the annual town meeting in March of 1881, it was voted to appropriate fifteen thousand dollars to furnish a supply of water for fire protection to Main Street by a Knowles steam pump permanently located at Cider Mill Pond. However, those who supported the use of Shaw Pond water, supplied by gravity, for both fire protection and drinking water, succeeded in having a vote passed that established a larger committee of seventeen members. This committee was to have "the power to secure additional facilities for extinguishing fire; to procure a charter for taking water, secure water rights, . . . build a pumping station, buy lands, etc." Luther Hill was the moderator at the meeting.

After several meetings, this enlarged committee decided not to invest the fifteen thousand dollars in a Knowles pump for Cider Mill Pond, but to seek a charter from the legislature granting authority to take water from Shaw Pond. The committee directed Luther Hill and his good friend Emerson Stone to seek the charter. The charter for the Spencer Water Company was granted in March of 1882.

The committee had also held several conferences with Goodhue and Birnie of Springfield, contractors who had built several water systems in Massachusetts. The result of these meetings was a recommendation by the committee to turn over the charter to a company that would be formed to build the system. This company would be organized by Goodhue and Birnie, who would have the privilege of appointing the officers. Goodhue and Birnie would build the system at their own expense and operate the works, charging the town for hydrants, etc. The town would have the right to purchase the water system at any time at a price fixed by three commissioners appointed by the Supreme Court. There is little doubt that Spencer money was going to be used to build the system. The company was formed with the following officers: Luther Hill, president; William Birnie, treasurer; Emerson Stone, clerk; and Charles L. Goodhue, manager. Directors of the company were Luther Hill, William Birnie, Emerson Stone, Charles L. Goodhue, and Edward E. Kent. There would be \$150,000 of stock issued by the company.

At a town meeting, June 13, 1882, the town transferred the charter to the newly formed water company, although there was some opposition to the plan by those who felt outsiders were being given too much control over the town. At the same meeting, Luther Hill moved that the town order fifty hydrants, twenty to be on Main Street, from the new company. This was passed. At the close of the meeting Richard Sugden signed papers giving the water company authorization to immediately begin work at Shaw Pond.

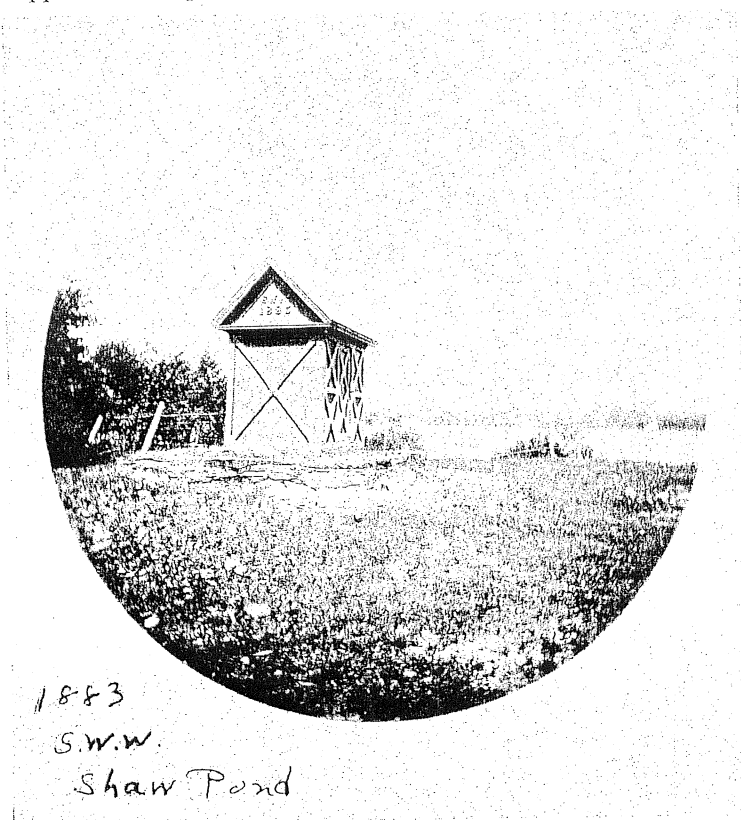
Work began in July. Rufus A. Smith began work on a dam at Shaw Pond that would enlarge the pond to seventy acres. The dam was to be 360 feet long and eighteen feet wide, built of earth with a cement and rubble (stone) wall in the center. Fifteen inches of rip-rap was to cover the slope facing the water. A "roll-way" 35 feet wide was to be built at the north end of the dam, and a sixteen-inch, cast-iron pipe, weighing one hundred pounds to the foot, extended through the dam into the pond. This was laid on a cement foundation and covered with fifteen inches of cement work.

At the same time, C. M. Tripp was building a shop at the freight yard near Elm Street for the offices of the water company. The following month, a second building was erected near the depot on Mechanic Street for the manufacture of the pipe that was to be used for the system. This pipe, which proved to be controversial, was sheet iron covered with cement inside and out. Although it had been used in Springfield, Worcester, New Bedford, Natick, and in many other water systems in the state, there were many who felt that cast-iron pipe should have been used. Detractors called it "stovepipe covered with cement."

By September 1, 1882, the water company was manufacturing a mile of various size pipe every week. Flat sheets of iron were formed into cylinders and then riveted by machine. The iron was then covered with cement inside and out.

The first shovelful of dirt at the beginning of construction was turned by Postmaster Emerson Stone on Monday morning, September 4, 1882, on Main Street near Sampson Street. The pipe for the main line had been placed along Main Street as it had come from the Mechanic Street manufactory, and was only waiting for the trench to be dug. There was to be three miles of pipe bringing the water to the town center, and an additional eight miles of branch pipe in the center streets. The work of preparing the trench for the pipe was done by hand using picks and shovels. More than one hundred men dug the trench under the supervision of Charles L. Goodhue. A ledge three hundred feet long was encountered near Bond Street and had to be removed by blasting.

On Saturday, January 20, 1883, all pipes were connected and on the following Monday night a small stream of water was let into the pipes. A leak was discovered Tuesday, and the water was turned off for repairs. The water was turned on again Wednesday noon, but had to be turned off to repair another leak on Thursday. Finally, at six o'clock on Thursday evening water was pouring from a hydrant near the railroad depot at Mechanic Street, and by ten o'clock a fire hose had been hooked up and a stream of water was directed thirty feet over the Green and Kane Blocks opposite the Depot.



Pumping station at Shaw Pond built in 1883.

If there was ever a citizen of Spencer who enjoyed a party, especially a large party, it was Luther Hill. As president of the Spencer Water Company, he arranged a celebration to mark the completion of the water works. It took place Tuesday, January 30, 1883, at the Town Hall. Six hundred invitations were sent out with recipients given the privilege of inviting ladies. The invitations were signed by Luther Hill, president of the Water Company, and carried the advice, "Wear your light boots, there will be music after supper."

During the afternoon before the dinner and dance, demonstrations of the system's effectiveness for fire protection were given by throwing water from different hydrants on Main and Mechanic Streets. At seven in the evening the Town Hall was opened, and practically every invitation seemed to have been accepted. Those invited had brought a lady or two, which meant that close to twelve hundred people attended.

The Town Hall stage was decorated with two hundred potted plants from F. F. Myrick, the florist, and above them the words "Shaw Pond" were written in evergreen. The Spencer Cornet Band played from the balcony, where the guests could later sit and watch the dancing below.

The evening began with speeches by Emerson Stone, Dr. Edward Wheeler, Senator Barton, Charles N. Prouty, Dr. Marc Fontaine, John O'Gara, and Luther Hill. When Luther Hill took the podium, the band broke into "Hail to the Chief," giving an indication of his importance in the project.

After the speeches, the settees were removed from the main hall and dancing began. At the same time, dinner was served upstairs from the main hall on the third floor, which was usually occupied by the Masonic Lodge. The first floor held the town offices and the library in the three-story Town Hall that would later be destroyed by fire in 1926. On the third floor only two hundred could be seated at a time, so the eating was done in shifts. Escalloped oysters with vegetables, coffee, cake, and ice cream were served. A tank, made for the occasion and containing sixty gallons of Shaw Pond ice water, had also been placed in the dining hall. A faucet allowed the guests to draw off a glass of the water to have with their meal.

In March of 1883, laying pipe resumed in the secondary streets of the town. A steam drill was brought in to use on ledge, and one hundred Italian laborers were employed to dig trenches for the pipe. All of the pipe was to be made by May 1st, so that the machinery for making the pipe could be moved to Wakefield, where Goodhue and Birnie had a contract to lay nineteen miles of pipe that summer.

In June of 1883, the selectmen installed a drinking fountain under the large elms that stood downtown on Main Street near the entrance to today's shopping center. The following month, a large trough for horses was also added. By the end of the year, about five hundred customers were tied into the water system. Many of these customers used the water for power. George G. Wright, a Wall Street machinist, advertised the Backus Water Motor in the local paper, resulting in the sale of many water motors. The local newspaper, the *Spencer Sun*, printed its papers using a water motor, and Dr. C. P. Barton used a water motor to run his dental machinery and a fan above his chair to keep his patients comfortable. The Boston Branch Grocery, on the east corner of Elm and Main Streets, used a water motor to grind coffee, and R. R. Walton used one for his ice cream making machinery.

Water fountains also appeared. Dexter Bullard had one installed at his home on Cherry Street, and Richard Sugden and Luther Hill each had one installed at their homes on High Street.

On June 12, 1884, the board of selectmen wrote to Luther Hill and inquired into buying the water works from the Spencer Water Company. Hill wrote back stating that the town could purchase the water works, and the Spencer Water Company would take payment in thirty-year bonds. Further, the price would be such that the receipts from the system would pay the interest on the bonds, as well as for repairs and maintenance on the system, and pay for the bonds at maturity.

At a town meeting held Saturday afternoon, June 28, 1884, the town voted to buy the water works for \$240,000, under the terms previously proposed by Hill. It was agreed that the sale would bring a profit of from \$50,000 to \$125,000 to the water company; however, there was little opposition to the purchase, and the profit was felt to be deserved. Also, despite the profit, there would be no increase in taxes as income from water users was to pay the interest and the retirement of the thirty-year bonds. Luther Hill, Dexter Bullard, and William A. Forrest were appointed as the first water commissioners.

A second and much larger celebration took place after the Spencer Water Company sold the water works to the town. On August 14, 1884, at Shaw Pond, an estimated five thousand people were the guests of Judge Luther Hill.

Early in the morning people began moving toward Shaw Pond. Businesses were closed and an unofficial holiday was observed. Every available vehicle was pressed into service to transport the crowd. A reporter said that he saw everything from a dog cart to a six-horse bus moving toward Leicester. Four or five big horse-drawn "barges" or buses came from Worcester and provided transportation from Spencer during the day. They charged a hefty twenty-five cents for the trip and many chose to walk. Some of the smaller taxis lowered their price to fifteen cents, but the big operators held fast. Those who had them came with their own wagons and tied up at one of the one hundred hitching posts that had been set up in the field south of the pond.

On a hill overlooking Shaw Pond a pavilion had been erected with seats for two thousand people. Referred to as a "giant wigwam," it was 200 x 40 feet and made of timbers interwoven with birch boughs. The pavilion was decorated with flags and streamers and was connected to Spencer center by a telephone line. Here the crowd was fed thirty bushels of beans, twenty-eight hundred pickles, and three hundred gallons of coffee. All was provided free of charge by Luther Hill, although officially the crowd was the guest of the Spencer Water Company.

There was entertainment all day long. The Spencer Cornet Band played throughout the day, and there was a performance by the "Jubilee Singers" from New Orleans. A Smith-American organ provided accompaniment for the singers. Clark's "Original London Punch and Judy" entertained the children, and at intervals throughout the day, balloons were released into the air. These were of different shapes and sizes, and included elephants, horses, fish, banners, flags, and even business cards. Fireworks were sent into the air throughout the day and provided a finale in the evening at the end of the celebration. The fireworks were said to be the first of this type ever seen in the area, although no further details were given.

Sports included a boat race, a sack race, a potato race, a wheelbarrow race, glass ball shooting, a baseball game between the Spencer constables and a local team, and a tug-of-war between a French-Irish team and a team of Yankees. The latter was the most exciting event of the day and was witnessed by three to four thousand people. For several minutes the two teams remained even before the Yankee team was victorious.

The event was covered by the three Worcester papers and the Springfield dailies as well. There was no drunkenness reported and the event was judged a great success. Spencer photographer Edward L. Jaynes made four "views" of the celebration.

By the end of 1884, 778 families were using town water. There were also ten offices, four hotels, two dental rooms, six markets, ten stores, eleven saloons, four churches, seven boot shops, several schools, the Town Hall, and the two engine houses. Water was used for thirty-four bath tubs, twenty-one urinals, eighty-eight hydrants, twelve water motors, nine boilers, ten fountains, and five watering troughs. Income was up more than expected, and all were pleased with the water system.

Initially, it seemed that the water system could satisfy nearly any demand. Fountains, watering troughs, water motors, and many bathroom facilities ran continuously, wasting a great deal of water. By the 1890's, many additional services had been added. A standpipe was erected in 1886 at the corner of Main and Grove Streets for street watering. The water motors had become so large that some of the smaller boot shops used them for power, and even the organ at the Congregational Church was powered by a water motor.

Houses in the vicinity of the top of Main Street Hill in the Lake Street area were the first to experience problems. During the day when the water motors were running, they were often without water. Later, the users of water motors began suffering a loss of pressure, especially on Monday, the traditional washday for Spencer's housewives. The charter granted by the state gave domestic uses preference, and in the beginning of 1893, the water motors were taken off the system.

The great fire of 1893, which caused extensive damage to the Wall Street area and threatened the destruction of the whole downtown area, caused some to question the water system. The hydrants were not available for use because the water had been shut off to repair a break. What had prevented the destruction of the town center was a quick firing steam pump that had been installed by the Prouty Boot Shop at Cider Mill Pond to protect their huge wooden factory. Since this was exactly what had been advocated for fire protection when the water works was built, there was some grumbling. However, the convenience of running water in homes and businesses muted most criticism.

The presence of eels in the water system caused some problems and not a little humor. These creatures caused blockages that often required extensive excavation. During the spring of 1894, five were taken out of the water mains in as many days. While flushing sewers Superintendent Craig captured seven large eels, and nine more eels measuring from two to three feet in length came wiggling out of the hydrants on Wall Street when they were opened to clear a blocked main at the gas house on Elm Street. Another blocked water main on West Main Street produced

another two eels. In June the town voted to provide a filter at Shaw Pond to attempt to solve the eel problem. At the meeting Dr. Edward Wheeler noted that the eels made the water "too thin for soup, but too thick for other uses."

A standpipe was erected on Powers Street in 1899. Its purpose was to equalize pressure throughout the system so that users at the top of the hill would not be without water during heavy water usage. It also provided a day or two of water in case of a break in the main water line coming from Shaw Pond, and kept the town from being without fire protection during repairs.

The standpipe was erected on the property of James Powers, who was compensated \$375 for the land. Fifty tons of steel plate were used to build the 39 x 40 foot circular tank. Walsh Boiler Works of Springfield was awarded the contract to erect the standpipe for \$4,499, and the water department put in the foundation. Total cost for the standpipe was \$6,945.44. This structure served Spencer until the new cement standpipe was erected on the top of Moose Hill in back of the high school in the 1970's.

Early in 1900, several breaks in the main water line from Shaw Pond caused the water commissioners to replace the pipeline that brought Shaw Pond water to Spencer center. The cement-lined pipe in the swamps and woodland south of Route 9 in the east end of town was replaced by cast iron pipe. The new line was laid beside the original. At the same time, Whittemore Pond began to be considered as a possible auxiliary water supply. The commissioners felt that even if new pipes were laid, the use of a single pipeline supplying the town from such a long distance was always a risky situation. This illustrates how in less than twenty years the water system had become indispensable. A pumping station at Whittemore would assure a supply of water to the town if repairs had to be made, and would be cheaper than building a second pipeline from Shaw Pond.

By the end of September of 1900, the new cast iron pipes had been put in position. While the new pipes were being connected to the system the water was shut off, and the town was supplied by the standpipe. In just a few hours water was again flowing. Only five feet of water was left in the standpipe. The water commissioners were confused by such heavy usage. They were also worried because Shaw Pond was a foot lower than it had been the previous year when there had been some apprehension about providing enough water for the town. The water remained low, but the supply was sufficient for the year.

There had been no problem with eels in 1900, but in the spring of 1901, the eels returned. Forty came wriggling out of the system during a single week while flushing out the hydrants. They were taken from blocked pipes at the gas house and from the water main on Wall Street. "Scores" were found in the filter beds after the sewer department flushed the sewers using the hydrants. The eel problem was a topic of debate when the board of trade met at the Massasoit Hotel.

With the passing of spring, the eel problem disappeared, but the lack of water at Shaw Pond became critical as the months passed. In November the water commissioners secured a centrifugal pump with a capacity of twelve hundred gallons a minute and a twenty-five horsepower engine and boiler. This pump was installed at Shaw Pond and was ready to begin pumping when the water went below the level of the intake pipe.

During the first week in December the pump was turned on. This pump lifted the water up to the level of the gatehouse, where gravity carried it to Spencer as usual. Spencer water users seemed to require many more gallons per household than other communities. After two weeks of pumping, rain raised the level of the pond eight inches and the pump was shut off.

The process was repeated the next year in 1902. By the end of November, the steam pump at the pond had to be utilized. Unusually high water usage was thought to be the cause of the problem, and in the spring of 1903 the water department ordered 784 water meters. Despite the conservation of water that the metering caused, the supply continued to be insufficient. The solution was to pump out of Lake Whittemore.

Excavation for a pipe from Lake Whittemore to Main Street, where it would join with the main pipe from Shaw Pond, began in September of 1905. Water from Whittemore Pond was put into the system the following month. However, it got off to a poor start. The water department forgot to close the gates at the connection and for several hours the pump at Whittemore sent water backwards through the pipes to Shaw Pond.

The town was prepared to spend a great deal of money for a new reservoir, with Lake Whittemore most often mentioned as the best source of water. The water rights to Whittemore belonged to the owners of the woolen mills on Valley Street, and the purchase of those water rights would have been a costly undertaking. At this point the superintendent of schools, Charles F. Adams, wrote a detailed letter to the *Spencer Leader*. Adams suggested that the town had far too little data on water usage, and that from his computations Spencer was using twice the water that other systems were using. To check his theory he asked the town to do the following: first, compare the metered sales with the water pumped to determine leakage; second, measure the leakage by shutting off the intake and measuring the drop in the standpipe at midnight; and lastly, if leakage was discovered, locate the leaks by shutting off branch mains and checking the lowering of the standpipe at midnight.

Adams went even further and did some investigating on his own, thereby discovering a large leak on West Main Street, simply by observation. The water department and engineers thought that any leakage problems were caused by the poor condition of the cement-lined pipes, and that the leaks would be so widespread that the whole system would have to be replaced with cast iron pipes. However, the discovery of this large leak by Adams and the logic of his suggestions prompted further investigation. The results were incredible. After checking the system, it was found that two thirds of the water was being lost to major leaks. One leak near the Prouty shop was so large that the Cider Mill Brook dropped inches within minutes when the water main was closed. The water crisis of the last five years was over. By 1906 Shaw Pond was at its highest level in fifteen years.

By the fall of 1910, repairs on the main feeder line from Leicester again pointed out how vulnerable the town was with only a single source of water, and work was begun to provide a permanent pumping station at Whittemore Pond. This would assure water at all times regardless of problems with the main feeder pipe. Water would have to be boiled for drinking, but fire protection, sanitary, and industrial needs were sure to be met.

A brick pumping station 12 x 24 feet was erected at the southeastern end of Luther Hill Park, near where the earlier steam pump had been located. A Rumsey Triplex pump and a twenty-five horsepower Ohio gasoline engine were purchased. The brick pump house was taken down after gravel packed wells were constructed in 1952 and 1965.



Pumping station at Lake Whittemore.

By 1913 the cement-lined pipe was finally acknowledged as having served well. Records indicated that the newer cast iron pipe had more leaks than the original cement-lined pipes, although a larger proportion of the system was of the "stovepipe covered with cement" variety.

The water works was paid for in 1914. The last payment on the \$240,000 debt that the town had assumed thirty years earlier was made by Town Treasurer Walter V. Prouty. Prouty sent the Boston Safe Deposit and Trust Company, who held the bonds, a final check for \$117,000.

In the fall of 1916 the town was forced to use the pump at Whittemore Pond when a break occurred in the main pipe from Shaw Pond. Water had to be boiled for drinking and cooking while repairs were being made. The following summer, Nathan E. Craig made a survey for a new pipe line from Shaw Pond. The new line avoided some of the deep cuts and hilltops that were held responsible for the breaks on the line. A town meeting in April of 1917 appropriated sixty thousand dollars to rebuild the pipeline. Ten years later, in August of 1927, voters authorized an additional forty-nine thousand dollars to replace old pipe in the system.

In 1935 ten thousand trees were planted along the shores of Shaw Pond. Emergency Relief Administration (ERA) funds were used to clear brush around the pond and plant the trees.

The annual town meeting of 1938 authorized the selectmen to purchase 36.98 acres from Carl E. Wicklund for not more than one thousand dollars. At a special town meeting in December of 1939, it was voted to increase this to 42.25 acres for not more than fifteen hundred dollars. The purchase was for the protection of the Shaw Pond watershed. An additional 7.7 acres was bought from John L. Johnson for three hundred dollars in 1950.

In the fall of 1940 work began on a small chlorinating plant at Shaw Pond. This was cut into the water main off Watson Street in Leicester. The plant went into operation January 16, 1941.

Drought required water to be pumped from Lake Whittemore in 1950. Again, all water used for drinking and cooking had to be boiled. A centrifugal Warren Pump replaced the old Rumsey pump, and a Wallace and Tiernan portable chlorinator was purchased to chlorinate the water. Water was pumped from Whittemore from November of 1950 until March of 1951. To relieve these conditions the town voted \$81,800 at the Annual Town Meeting in March of 1952 to acquire land and construct a gravel-packed well at Howe Brook near South Spencer Road. The price included a pumping station with pumps, and a pipe line to connect with the existing system at Sumner and Water Streets.

Drought during the 1960's again prompted action to assure a continued supply of water for Spencer. At a special town meeting in May of 1965, it was voted to appropriate \$100,000 for the construction of a gravel-packed well. The cost included a pumping station and all necessary pipes.

While this was being built, temporary wells were used to supply additional water. Water was pumped from these wells using an auxiliary gasoline operated pump. Pumping began from these temporary wells on March 1, 1966 and continued until the middle of August.

The new well was built at the same location as the well built in 1952. The well was 18 x 24 inches wide and sunk sixty-six feet deep. A five-hundred-gallon-per-minute pump was installed and a building 16 x 16 feet was constructed to house the pump and other equipment.

At a special town meeting November 31, 1974, it was voted to authorize the selectmen to petition the legislature for permission to use Moose Hill in back of the regional high school for a standpipe, and to establish a right of way to the site to maintain the installation. Permission was granted, and a new standpipe subsequently was built. It greatly increased pressure in the system.

SEWERS

The earliest sewers, exclusive of the family outhouse, were pipes or ditches leading to the nearest brook or river. The results of this type of disposal were recognized as a health hazard by the early 1870's and perhaps earlier. Many references are made to "Capen's Pond," which was located just east of Elm Street between Valley and Pearl Streets. This was the mill pond for "Capen's mill," a stone grist mill on the south corner of Valley and Elm Streets. Any liquid discharged from the buildings on Main and Chestnut Streets found its way into this pond or its feeder brooks, which were the brooks from Muzzy Meadow and Cider Mill Pond. This nuisance and threat to public health was filled to provide land for the freight yard and the gas house.