

HISTORY OF THE HOOKSETT WASTEWATER SYSTEM:

(9/19/2022)

New Hampshire has over 17,000 miles of rivers and streams. In the 1960's the Merrimack River was the 10th dirtiest river in the country. A small group of Hooksett citizens and sportsmen decided to do something about that.

1962 That group of citizens put a warrant article on the ballot for \$13,000.00 to plan, survey, report, and prepare for a sewage and wastewater treatment facility. This money was to be repaid by the Federal Government. During the summer of 1962 the towns of Hookset, Pembroke, and Allenstown hired the firm of Morgenroth and Associates Inc. of Boston to do the work at a fee of \$7,800.00.

1963: On November 14th the report was received and accepted by the State of New Hampshire. One of the areas to be serviced with sewer lines was the Hooksett Village area. At that time it had a combined sewer and storm water system that discharged directly into the Merrimack River at four locations. The other area was South Hooksett. There were three lines that carried untreated sewage into open ditches and swampy areas. There would be three pump stations: one each at Martin's Ferry, Merrimack Street, and Man Street behind the Hooksett Village Water Department. The plant would be built in the center of town behind what is now Hooksett Memorial School. At the 1963 Town Meeting the townspeople voted to approve \$61,000.00, also to be repaid by the Federal Government, for the cost of engineering, surveying, design, and plans for the construction drawings and specifications for sewer interceptors, plant, and pump stations.

1964: The Town approved the amount of \$2,000.00 for the purchase of approximately three acres from Mr. Robert Zapora. This was the land on which the sewer treatment facility would be built.

1966: The Town voted to raise and appropriate \$1,475,800.00 for the purpose of building the municipal sewage disposal system which included interceptors, pump stations, treatment works, and other related facilities. It included land acquisition, easements, and rights of way. Of that sum, 90% would be paid by the State and Federal Governments. The Town would be responsible for only 10%. At that same meeting it was also voted to establish a Board of Sewer Commission (BOSC) per RSA 252:19. Today it is RSA 149: I. Melvin A. Johnson, Peter Zela, and Carl S. Park were voted in as the first three commissioners. The newly formed BOSC applied for an additional \$350,000.00 through a HUD Grant Program. Hooksett was the only town in New Hampshire to receive the grant money in that year.

1968: Construction began with all phases being done at once. Various contractors were working on all aspects of the system at the same time laying sewer lines, working on the facility, etc.

1969: BOSC made an application to Southern NH Planning Commission to increase funding from HUD for coverage of the \$1,475,000.00 from 50% to 55%. This brings the amount of grant money to 95%.

1970: September 8: The extended aeration sewage treatment facility came on line with three pump stations and approximately 12 miles of sewer mains. Today Hooksett has approximately 60 miles of Town and private sewer mains. Mr. Ralph Page was selected as the first superintendent of the facility. It was designed to treat .225 Million Gallons Daily (MGD) of wastewater and was designed to serve the Town's needs for 10 years. The first day 60,000 gallons were processed,

1973: The town was experiencing a population growth considerably greater than was predicted. The dry weather flow was averaging .200 MGD. This means that it was nearing capacity while accepting sewage only. No infiltration from storm drains was coming into the facility. Plans had to be made for expansion to .450 MGD. Also, the town voted to raise \$92,000.00 for the purpose of completing the shopping center sewer line. It ran from the pump station at K-Mart to DW Highway, then down to the Martin's Ferry pump station. The original plan was to run from the K-Mart pump station to Benton Road then along an easement on the properties on the northern side of the road to the Martin's Ferry pump station. The residents did not approve of the route so it was changed to the alternate route.

1974: November 1st: The townspeople approved \$720,000.00 for the plant expansion at a special town meeting. It was paid with 75% Federal money, 20% State money, and the remaining 5% was paid for by Southern N.H. University (then known as New Hampshire College). The town continued its growth surge throughout the 1970's and the plant again reached capacity and an addition was necessary.

1980: September 5: Townspeople again voted to support the wastewater system and approved \$264,000.00 To build a 60' diameter clarifier. Unfortunately, when the bids came in the cost was higher than what had been approved. Mr. Sidney Baines, then Select Board Chair, worked with local residents and town businesses to get loans to cover the overage. The Sewer Commission repaid the loan over the next ten years. With that expansion the flow would increase to .800 MGD.

1984: July 27: As time went on, it was determined that there were still areas of Town that needed sewer service and a major expansion of the treatment system was needed. Septic systems had failed and sewage was running on the ground. Industrial and commercial businesses were being planned and small upgrades were needing to be done at the treatment facility which included inflow/infiltration mediation. The BOSC at that time (Ronald Savoie, Lowell Apple, and Bud Fongeallaz) determined it was necessary to make improvements to the system. R.H. White was hired to do the engineering. The area needing expansion included Rte 101B, Rte 27, Berry Hill Road, Whitehall Terrace, Farmer Road, Presidential Park, and Harvest Drive. This was considered Phase I. Phase II would be the new force main from the Merrimack St Pump Station to Lafond Avenue, and a new gravity line to the wastewater treatment facility. This was done to save the ratepayers money on electricity. Phase III would install sewer through the Industrial Park to Route 3 at Dexter Shoes, then south to Rte 101B. This line serviced Shaw's Plaza, Campbell Hill, G.E., Cummings Printing, and would be available for future businesses. A special Town Meeting was held on July 27th, 1984 a \$2,500,000.00 bond was approved. The BOSC, working with interested parties, were able to raise an additional \$405,000.00. The Hooksett BOSC was the first in the state to develop a System Development Fee. This is a fee charged to every new hook-up to help pay for upgrades to the system.

1986: Sludge or biosolids, the byproduct of wastewater treatment, had been trucked to the landfill beginning in 1974. The dry content was only 7% - 8% and it began causing a problem for the landfill. A new dewatering machine was installed in 1986 that brought the dry solids number up to 16%-17% which was better for transporting to the landfill. Unfortunately, no sooner had the machine been installed when the Town Selectmen informed the BOSC that we were no longer going to be allowed to bring the sludge to the landfill. We were given a full 24-hours notice! The BOSC was forced to sue the Town in order to be allowed to continue using the landfill until a different solution could be found. The BOSC won the suit and was allowed back into the landfill for disposal of biosolids. In the time period between being told we couldn't use the landfill until the resolution of the lawsuit the biosolids had to be hauled in liquid form to either Concord or Manchester at a considerable cost.

1988: Working in conjunction with the State of NH Department of Environmental Services from 1986 to 1988, a new plan for the disposal of the biosolids was devised. It would be mixed with lime to bring the pH to 12. This made it a Class B Biosolids and it could then be land applied. Hooksett was the first plant in the state to adopt this practice. By 1988, with the help of Bruce Kudrick, Superintendent at the time, the BOSC had agreements to spread the product on over 250 acres of fodder corn fields in Pembroke. It was used as fertilizer. There were also 10 acres at Martin's Ferry that were used. There the biosolids were used to make topsoil. Pumpkins, winter rye, and oats were grown there also. Due to new State regulations, our land application operation had to stop in 2004. It had been working successfully since 1987. We would have needed more farm land which wasn't available. The biosolids were then taken to the Turnkey Landfill in Rochester for a time. Then to the Merrimack Wastewater Plant where it was used in their compost operation. During the 1980's the BOSC members (Lowell D. Apple, Ronald R. Savoie, William Fongellaz, and Doug MacDonald) provided loam derived from our biosolids to the Town for the new Safety Center and the covering of the landfill. This saved the Town considerable money.

As the plant and equipment approached 30 years old, and the town continued to grow, the BOSC continued to work with Graves Engineering on upgrading the "choke points" in the system. These are areas where the flow is greater than the pipe will handle. The chlorine contact system need to be upgraded to meet EPA requirements to be able to handle 2.2 MGD. Due to the small area available for installing a new tank, two 36" X 400' of underground pipe was installed to keep the above ground area useable for parking or storage. This was paid for using System Development Fee money.

1991: A failed housing project, approved by the Hooksett Planning Board, at Golden Gate and Castle Drive left 11 homes with no septic systems. The town voted to spend \$193,500.00 to put install a pump station and sewer line into this project.

1997: The BOSC offices started off in the old Town Hall, but over time the town office needs grew and the Selectmen told the BOSC that they would have to find other accommodations. The office was moved out of Town Hall into the former Duracrete building off Route 3. From there it was in an old office trailer that was moved onto Treatment Facility property. Using System Development Fee money, in 1997, a new office building was built on that site.

1998: Using funds from a State of NH Revolving Loan Fund, State aid grants, and System Development Fees, problem areas with old sewer mains (Highland Street, Dundee Ave, Chase, Granite, and Benice Streets, and Golden Gate) were rebuilt.

2002: As the regulations on land application of biosolids made it too difficult to continue the project, the BOSC looked at starting a state-of-the-art composting facility at a cost of \$3,500,000.00. The final product would be considered Class A and would be made available for citizens to use as topsoil. The plan was put on the back burner in 2007 due to a lawsuit from neighbors across the river from the compost site. The BOSC won the lawsuit, but agreed to put the compost operation somewhere other than at the treatment facility. Land was acquired at the industrial park. Eventually the biosolids were taken to the Merrimack WWTP and added to their compost operation.

2005: The population of Hooksett had grown from 6,223 in 1969 to 13,000. The BOSC (Sidney Baines, Roger Bergeron, and Ray Robb) had to begin planning for the future. It is their responsibility to make sure that the treatment facility and infrastructure are able to keep up with growth. A lot of the equipment was now 35 years old and wearing out. Even with the many upgrades already completed much of the equipment could no longer be repaired or parts located for them. Also, the plant capacity had reached 80%. The facility's EPA permit requires that, when that capacity is reached, planning needs to begin for a design for the future.

2006 - 2007: The Commissioners, working with Graves Engineering, developed a three phase upgrade. Phase I was for an upgrade to the Martin's Ferry pump station. Phases II and III were upgrades to the treatment facility in order to bring capacity to 2.0 MGD. The BOSC was delayed in going out to bid for Phase II due to NH DES requirements for extensive testing of the Merrimack River for one year. During that time NH DES requested that the plant be designed for removal of phosphorous and nitrogen. In 2008, with the help of then-Governor Lynch, NH DES agreed to reconsider the revised plan and the bidding process finally began.

2009: The Town approved \$6,224,375.00 for upgrades. Of this amount, 50% will be paid by the Federal Stimulus Package. With this approval, the BOSC was able to move to begin Phase III which would add the removal of phosphorous and nitrogen using a new system called IFAS (Integrated Fixed Film Activated Sludge). Hooksett was the first plant in New Hampshire to use this process. The reason this system was chosen was that it eliminated the need for additional aeration tanks which saved a large sum of money. A new chemical building, sludge return pumps, blowers, new chlorine system, and everything else needed to get a design flow of 2.2 MGS was included in this phase.

2011: March 6: Unfortunately, there was a major failure of the IFAS system. There was a loss of 8,000,000 of the disks which washed into the Merrimack River. More than 42 towns in Massachusetts threatened to sue the BOSC. The BOSC took full responsibility for the incident through our lawyer and NH DES, and no lawsuits took place. The clean-up of beaches in NH and Massachusetts cost over \$1,000,000.00. That money was taken from Capital Reserves. Between March, 2011 and January, 2017, with assistance from the BOSC's lawyer, engineers, and Superintendent Bruce Kudrick, the cause of the failure was determined. After much litigation the BOSC was able to settle with the company that had supplied the IFAS system. The commission then started working with DES and Underwood Engineering to determine what needed to be done at the treatment facility to get the IFAS system to work the way it was designed to and to meet the design standard set in 2008.

Eventually the disks flowed into the Atlantic Ocean. As of 2022 the disks have reached Norway and the Soviet Union. As bad as the disaster was, NH DES's largest, some good came of it as the US Coast Guard was able to model ocean currents and learned where oil spills would travel and how to mitigate them. A number of currents that were previously unknown were able to be mapped. The lab at NH DES developed a method of determining if e-coli is present on a solid object. This had not been done before.

2012: Hooksett BOSC worked with their State Representatives on Senate Bill 223. This bill allows cities and towns to enter into partnerships with private contractors for design and construction of new sewer lines, or extend existing sewer systems at no cost to local taxpayers. It was signed into law on April 11th.

2015: As the town continues to grow the BOSC began looking into the distant future to try to determine what will be needed at the facility needs to expand. It was determined that more land would need to be acquired and they were able to obtain seven (7) acres adjacent to the facility from the Hooksett School District. Over the years BOSC has picked up over 19 acres.

2018: With development starting to pick up on Rte 3A (West River Road) near exits 10 and 11 of I93, the BOSC, using System Development Fee money, began the installation of two force mains under the Merrimack River and set up a site for a future pump station. This area is part of Town's TIF District.

2019: The cost of electricity to run the treatment facility was becoming quite expensive. The BOSC decided to take action to help reduce that cost. Three acres of land adjacent to the facility were cleared and solar panels were installed. By 2020 it was supplying power to cover 80% of the facility's needs.

2020/2021: On May 31, 2020 Bruce Kudrick retired after 47 years, 40 as superintendent. Mr. Ken Conaty was hired as the new superintendent. The Main Street Pump Station was rebuilt. It was an injector station built in 1969 and it was beginning to get difficult to find parts.

2022: Three warrant articles were passed at March's Town Meeting to (1) rebuild the Martin's Ferry Pump Station and upgrade the force main, (2) sludge handling upgrade at the treatment facility, and (3) the Merrimack Street and Golden Gate Pump Station upgrades. These articles totaled \$6,900,000.00. The Town was anticipated to receive \$3,120,000.00 through grants, wastewater department reserves, and TIF district funds. The remaining amount, \$3,780,000.00, would be raised by a bond to be repaid by the sewer ratepayers over a 20-year period. When completed these upgrades will have raised the plant design flow from 1.1 MGD to 1.6 MGD.

Over the 52 years that the Board of Sewer Commission has existed, it has brought about several first-time innovations for the State of New Hampshire:

1. System Development Fees
2. Land Application of Biosolids
3. IFAS System
4. Entered into partnership with private contractors to raise money to complete sewer expansions.

Additionally, the BOSC has been very lucky to have many long-term employees who have grown along with the system and who know the ins and outs of their duties so well. The plant began with only two employees, Ralph Page, Superintendent, and Bruce Kudrick. Rendell Burbank, followed by Jeffrey Lodge, Dana Clement, John Patton, Bryce Fletcher, Greg Nason, Henry Tylec, Alfred "Zip" Hamel, Brian Towle*, Ron Pelletier, Brian Taylor, Scott Tremaine*, John Clark*, Leo Lavin*, Mike Desaulniers*, and Ken Conaty, Superintendent*.

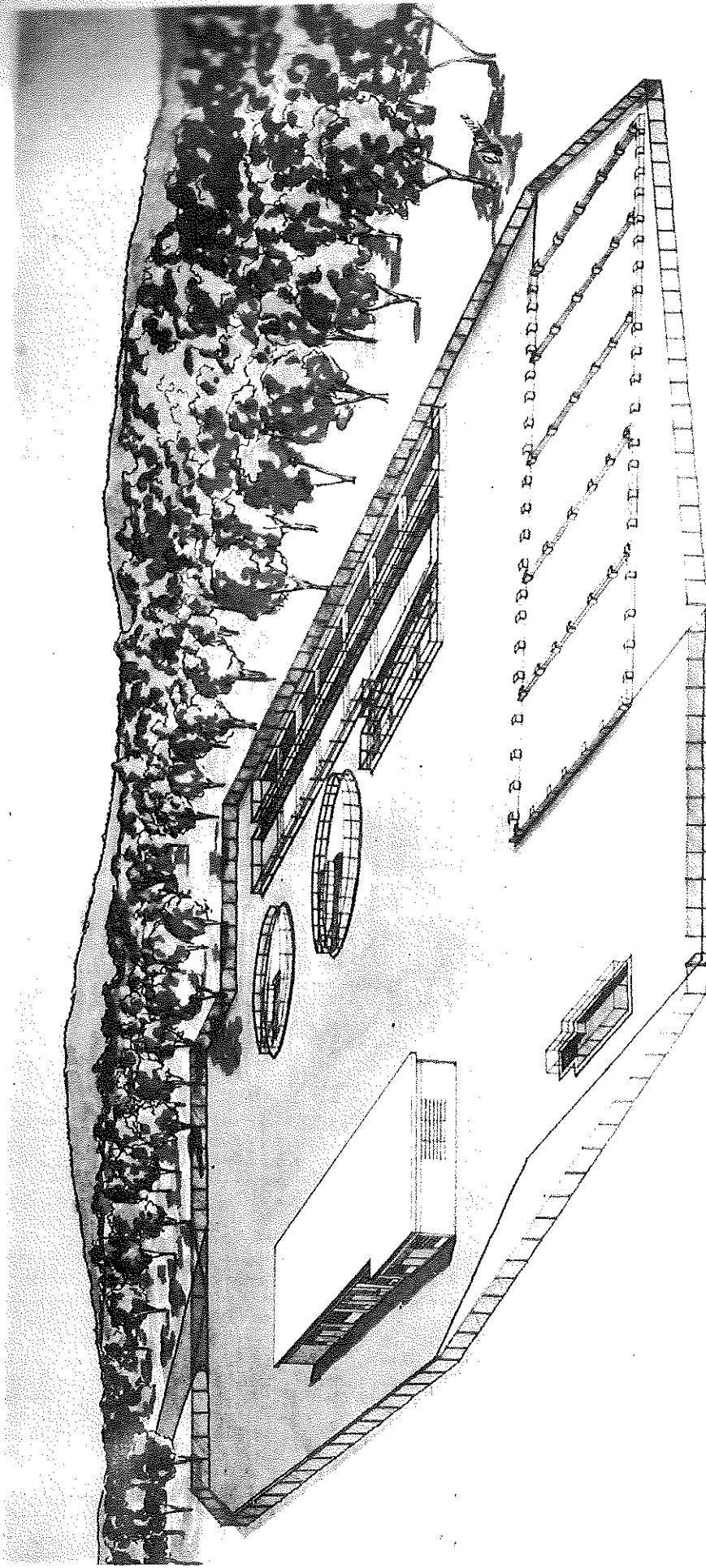
Over the years the office has been run by Bernice Hardy, Linda O'Keefe*, Joan Savoie, Deb Patterson, Beth Hague, Kim Langlois*, and Guy Beloin*.

Those with an * are currently still employed by the BOSC.

Information compiled by Bruce Kudrick former superintendent

SEWER COMMISSIONER HISTORY

NAME	FROM	TO
Melvin A. Johnson		1966 Original
Peter Zela		1966 Original
Carl S. Park		1966 Original
Robert C. Morin, Sr.	March 24, 1967	October 29, 1975
Ray F. Langer	March 24, 1967	July 7, 1971
William S. Miller	March 24, 1967	April 13, 1968
William A. McDonald, Jr.	April 13, 1968	December 31, 1970
Ralph Page	January 1, 1971	February 20, 1974
Everett Hardy	July 7, 1971	March 5, 1975
Leslie Pike	March 6, 1974	October 29, 1975
Merle Blakeley	March 5, 1975	March 15, 1978
Everett Hardy	November 19, 1975	March 3, 1975
Richard Hatch	November 19, 1975	December 15, 1976
William Space	March 3, 1976	May 20, 1976
Robert C. Morin, Sr.	June 2, 1976	March 21, 1979
Dawn M. Channing	December 15, 1976	November 7, 1979
Roger Bergeron	March 15, 1978	March 7, 1984
William Fongeallaz	March 21, 1979	October 31, 1981
James Follansbee	November 21, 1979	January 1, 1983
Maurice Rousseau	November 18, 1981	March 31, 1984
William Fongeallaz	January 19, 1983	November 14, 1990
Lowell Apple	March 21, 1984	June 3, 1989
Douglas MacDonald	April 4, 1984	June 3, 1985
Ronald Savoie	July 10, 1985	June 30, 1989
Robert Kerry	July 14, 1989	June 30, 1990
Roger Burgess	July 14, 1989	June 30, 1990
Pat Rueppel	July 1, 1990	June 30, 1991
Paul Kenney	July 1, 1990	January 5, 1993
Bob Kerry	November 20, 1990	June 30, 1991
Laura Madden	July 1, 1991	June 30, 1992
John Ciempa	July 1, 1991	June 30, 1992
Pat Rueppel	July 1, 1992	October 14, 1994
Everett Hardy	July 14, 1992	June 30, 1993
Marc Van De Water	January 12, 1993	June 30, 1993
Wilma Stack	July 1, 1993	January 16, 1996
William Devoe	July 1, 1993	June 30, 1994
Sid Baines	July 1, 1994	PRESENT ♡
Dan Collins	November 17, 1994	June 30, 1995
Judi Hess	July 1, 1995	June 30, 1998
Jim Tondreau	April 2, 1996	June 30, 1996
Dale Hemeon	July 1, 1996	June 30, 2002
Ray Robb	July 1, 1998	October 4, 2011
Roger Bergeron	July 1, 2002	June 11, 2018
Frank Kotowski	October 5, 2011	June 30, 2021
Richard Bairam	July 1, 2018	PRESENT ♡
Robert Duhaime	July 1, 2021	PRESENT ♡



SEWAGE TREATMENT PLANT
HOOKSETT, N. H.

MORGENROTH & ASSOCIATES INC.
CONSULTING ENGINEERS
BOSTON

MORGENROTH & ASSOCIATES INC.
ENGINEERS
MASS.



