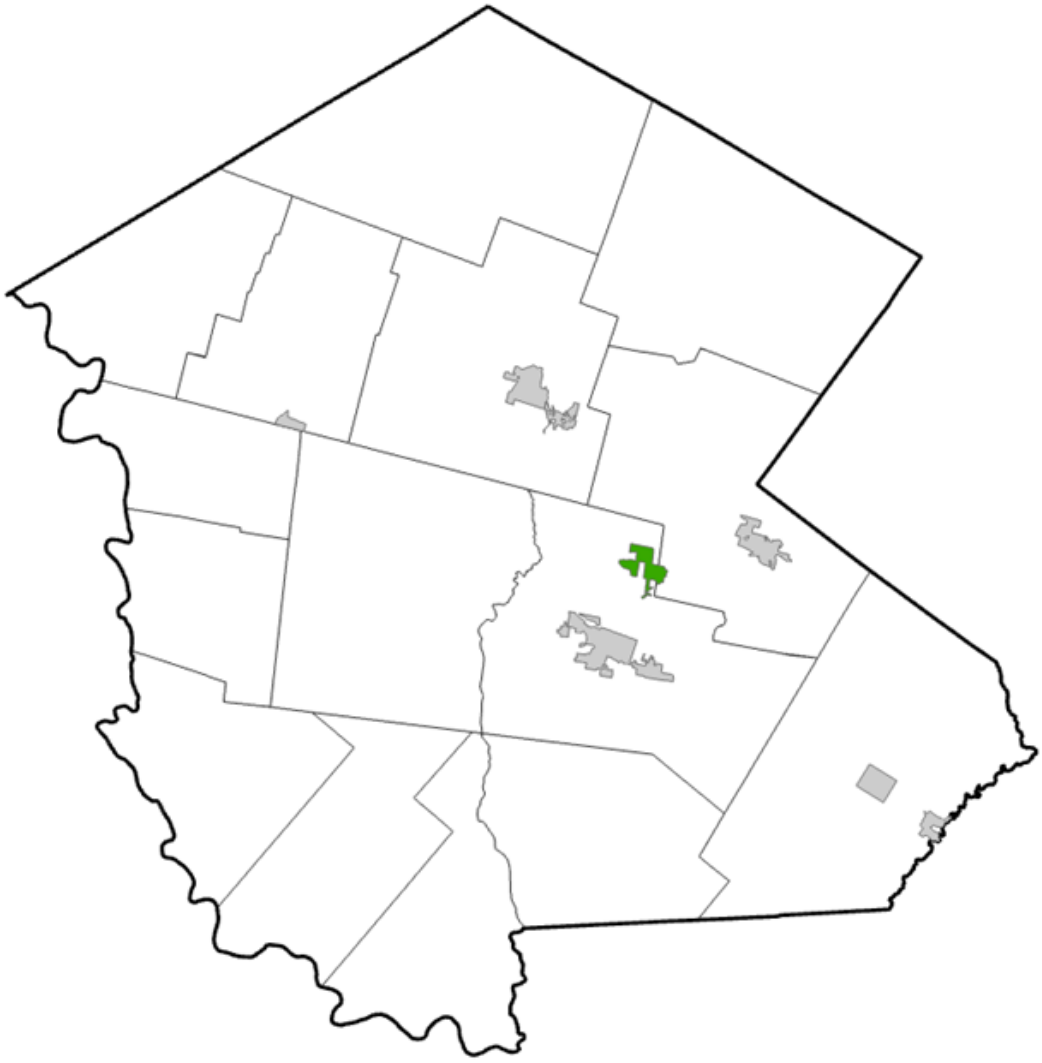
Sullivan County Assessment of Potable & Wastewater Infrastructure

VOLUME II

Village of Ateres



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Volumes I and II are part of a larger report.
The full Sullivan County Assessment of Potable and
Wastewater Infrastructure Report may be requested from the
Sullivan County Division of Planning, Community Development and Environmental Management

1. ABOUT THIS DOCUMENT

In 2025, the Sullivan County Division of Planning, Community Development, and Environmental Management (DPEM) undertook, with the support of Delaware Engineering, DPC, a project to assess water supply and wastewater management infrastructure throughout the County.

As part of that project, known as the Countywide Assessment of Potable and Wastewater Infrastructure (CAPWI), water and sewer infrastructure serving residents and businesses in each of the County's twenty-two municipalities was surveyed, inventoried, and evaluated. This document details the results of this effort and presents the information in a series of Community Reports. The CAPWI Volume 1 Report reflects the information developed within this Volume 2 Report through a series of recommended actions aimed at supporting water and sewer service county-wide, and advanced by the County.

1.1 Using this Document

The information is structured around inventory and evaluation of each community's water supply and wastewater management infrastructure. While emphasis is placed on municipally owned systems, the report surveys and documents other centralized and regulated decentralized water and sewer systems in the Community. Individual on-site facilities are beyond the scope of this report, though it is noted where in the County these systems are exclusively relied on. Mapping showing service areas and other key information accompanies the report. Sources and methods are also described.

The information in this volume is, in general, not at a level of detail or intended to provide analysis of system or component capacity, be used in the design of specific capital projects, provide detailed system mapping, assess or recommend specific operational techniques or strategies, or other similar activities requiring development of precise technical information and detailed engineering assessment. Instead, this volume provides an inventory and planning-level evaluation of these systems in support of policy and programmatic needs and decision making.

The Countywide Water and Sewer Evaluation and Recommendations report can be viewed by visiting the following website from DPEM.
https://www.sullivanny.gov/Departments/PlanningEnvironmental/PlansandStudies/CAPWI

Individual Community Profile reports have also been prepared as part of the CAPWI project and are intended to be standalone documents that can be used by a variety of audiences,

including municipal leaders and officials, residents, and businesses, seeking basic information about water and sewer service in the municipality.

Finally, many of the terms used have specific meanings and are further elaborated upon in a Glossary attached to this report. Terms appearing in the Glossary are denoted in underline throughout the document, and in the electronic version, you may click these terms to be taken directly to where that term appears in the Glossary.

1.2 Understanding the Data: Public vs. Private Infrastructure

As stated previously, the primary focus of this report is inventorying municipally owned water and sewer systems in Sullivan County. However, the community profile reports also provide limited information on privately-owned systems where relevant and publicly available. In order to understand the data presented, the reader must first have a basic understanding of the regulatory framework governing the operation of different types of water and sewer systems in New York State.

Regardless of ownership, there are two regulatory agencies that are primarily responsible for issuing permits and approvals for drinking water and wastewater systems – the New York State Department of Health (NYSDOH) and the New York State Department of Environmental Conservation (NYSDEC).

1.2.1 Public Water Systems (NYSDOH)

In Sullivan County, the NYSDOH is the agency responsible for regulating public water systems. This includes water systems owned and operated by a municipality, as well as privately-owned water supply companies, and even hospitals, gas stations, and other facilities with private wells. When it comes to water systems, public means that these systems serve the public at large – not the form of ownership.

In general, water systems regulated by NYSDOH as public water systems are classified as either community water systems or non-community water systems (see Glossary for more information). The data contained in this report is limited to community water systems**,** whether publicly or privately owned. Information about non-community water systems (including those that service transient seasonal populations like camps and bungalow colonies) is included, where available, but is not further detailed.

1.2.2 Wastewater Treatment Facilities (NYSDEC)

New York State's wastewater discharge regulations are administered by the NYSDEC through the State Pollutant Discharge Elimination System (SPDES) program, which requires

permits for any facility that is designed to treat and discharge wastewater. That includes sewage treatment plants that discharge effluent directly to a surface waterbody (like a nearby lake or stream) as well as facilities that discharge wastewater into the ground (like septic systems and sand filters).

No SPDES permit is required for a facility designed to treat less than 1,000 GPD, and Minor SPDES projects (those with wastewater discharges of less than 10,000 GPD) are typically covered by a NYSDEC General Permit (GP-0-25-002). Only wastewater treatment facilities that don't fall into one of those two categories (Major SPDES projects) are detailed in this report. Those include centralized systems (e.g., Publicly Owned Treatment Works), regulated decentralized systems (e.g., "package plants"), and commercial-sized septic systems that discharge to groundwater. Like water systems, wastewater treatment facilities can be publicly or privately owned.

Although the SPDES program is involved in the centralized wastewater systems with which the CAPWI effort is primarily concerned, the City of New York and DRBC each regulate in parallel wastewater facilities within their respective geographies. Of further note is that residential systems handling less than 1,000 GPD are regulated by NYSDOH.

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2. GLOSSARY OF TERMS

2.1 Action Level (AL)

The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

2.2 Annual Water Quality Report (AWQR)

The Annual Water Quality Report is required by federal law and NYS regulation and is designed to provide consumers with information on the quality of the water delivered by their public water system. Systems serving fewer than 1,000 service connections are required to report information on the water source and water treatment, the levels of any detected contaminants, and compliance with drinking water rules, plus general educational information. The report also includes an explanation of the size of the population served by the system, which also typically includes the number of service connections. These reports are available at municipal offices and on municipal websites for public consumption.

2.3 Centralized System (Water or Sewer)

Centralized systems, which can be water supply or wastewater management, refer to infrastructure that is, typically but not exclusively, municipally owned and which is characterized by extensive distribution and conveyance networks serving large areas. Water supply and wastewater management are provided at typically larger-scale facilities. These systems are highly regulated. This infrastructure consists of both collection and conveyance, as well as treatment.

2.4 Decentralized System (Water or Sewer)

These systems are characterized by smaller numbers of connections and with water supply and wastewater treatment works provided closer to the users or source of demand. This term includes individual on-site water supply wells and septic systems serving single users, but also encompasses systems serving multiple connections that are regulated similarly to centralized systems.

2.5 Collection and Conveyance System

The sanitary sewer collection and conveyance system refers to the elements of the sewer system that enable wastewater to flow from points where it's generated to the point(s) where it's treated. In this report, the system begins at the point of connection to individual users and consists, generally, of pipes, manholes, pump stations, forcemains, and upstream wastewater storage (flow attenuation).

2.6 Community Water System (CWS)

A public water system (i.e., one that serves 15 or more service connections used by year-round residents or regularly serves at least 25 year-round residents - see definition in this document) that supplies water to the same population year-round. Examples of community water systems include municipally owned (cities, towns, or villages) public water supplies, public water authorities, or privately-owned water suppliers such as homeowner associations, apartment complexes, and mobile home parks that maintain their own drinking water system. See also the discussion in this Glossary of non-community water systems.

Community water system information, where available, is presented in tabular format. The following table provides an explanation of the meaning of the various values contained in each of the fields.

Water System	Service Area	SDWA #	Population	Connections
[Name of water system]	*[The Primary type of area that is served by the* public water system*: MHP =* mobile *home park]; HOA = Home-owners association;* Residential = Residential area; etc.]	*[Safe Drinking Water Information System (SDWIS) ID number]*	*[The reported population that is served by the system in SDWIS reporting.]*	*[The reported number of service connections within a system in SDWIS reporting.]*

2.7 Deferred Maintenance

In this report, deferred maintenance refers to the postponement of essential upkeep, repairs, or replacements for public facilities, infrastructure, or equipment. These typically minor items will become delayed to the point where they end up impacting performance and reliability, becoming far more costly to rectify. Small maintenance over many years is

more sustainable than waiting for an issue to happen, such as a water main break due to an unrepaired detected leak, or continuing to operate with undersized or obsolete equipment instead of upgrading to something that will save time and money over the long run.

2.8 Delaware River Basin (DRB) and Delaware River Basin Boundary

The area of drainage into the Delaware River and its tributaries, including Delaware Bay, is regulated by the DRBC. Its size is approximately 13,500 sq. miles and includes land in four states.

2.9 Delaware River Basin Commission (DRBC)

The Delaware River Basin Commission is the regional body created in 1961 by the Delaware River Basin Compact signed among the states of Delaware, New Jersey, Pennsylvania, and New York with the force of law to oversee managing the Delaware River system across state boundaries. Among other regulatory programs, DRBC addresses projects in the basin that withdraw from or discharge to the basin's waters over certain thresholds. The threshold for water withdrawals is taking water from ground or surface water, or diversion, or transfer in or out of the Basin, when the daily average gross withdrawal during any 30 consecutive-day period exceeds 100,000 gallons. The threshold for discharges is those over 50,000 GPD during any consecutive 30-day period from wastewater treatment facilities or the importation or exportation of wastewater.

2.10 Delaware River Basin Commission (DRBC) Docket

The record of decision made by DRBC, pursuant to its authority under the 1961 Compact, relating to an application for a permit, including those relating to regulated water withdrawals and discharges. Dockets contain information about water and sewer systems and permitted withdrawal and discharge thresholds.

2.11 Distressed Communities

As per the Empire State Development Corporation and NYS Climate Act, distressed or disadvantaged communities are those that bear the burden of negative public health effects, environmental pollution, and climate change impacts that possess population decline, economic hardships, high unemployment, and high concentrations of low to moderate-income households.

2.12 Disinfection Byproducts (DBPs)

DBPs are substances produced when chlorine, used for disinfection of water, reacts with organic materials in the water. The formation of DBPs is usually a greater concern for water systems that use surface water, such as rivers, lakes, and streams, as their source, as these sources are more likely to contain organic materials necessary for these reactions.

Total trihalomethanes (TTHM) are volatile regulated disinfection DBPs that can pose significant cancer, organ, and reproductive risks. They include chloroform, bromodichloromethane, dibromochloromethane, and bromoform.

Total haloacetic acids (THAA) are regulated disinfection DBPs that can pose cancer and developmental health risks. They include monochloroacetic, dichloroacetic, trichloroacetic, monobromoacetic, and dibromoacetic acids.

2.13 Equivalent Dwelling Unit (EDU)

An EDU is a measurement for water usage that standardizes all users into units based on the demand of one single-family dwelling unit. EDUs are used by utility providers to calculate service charges associated with the probable demand for each user.

2.14 New York State Environmental Facilities Corporation (EFC)

EFC is a NYS public benefit corporation that assists communities and certain businesses throughout New York State to undertake critical water quality infrastructure projects by providing access to low-cost capital, grants, and expert technical assistance. As such, EFC plays a significant role in capital projects undertaken by NYS municipalities. A primary goal is to ensure that these projects remain affordable while safeguarding essential water resources. EFC develops and advances financing strategies to maximize the funding that can be made available, aiding compliance with Federal and State requirements, and promoting green infrastructure practices. In implementing these programs, EFC partners with NYSDEC and NYSDOH on wastewater and drinking water supply projects, respectively.

EFC allocates state and federal funds to participating entities in the form of grants and loans. Major programs include the Clean Water State Revolving Fund (CWSRF), which is oriented toward sanitary sewer and wastewater infrastructure projects, and the Drinking Water State Revolving Fund (DWSRF), which is oriented toward water supply infrastructure projects. These funds “revolve” as borrowers pay their loans back, with payments in turn used to finance new projects; EFC also uses revenue bonds to increase available capital.

Other programs include the engineering planning grants (EPG) program, which provides support to fund the engineering reports required to apply to EFC for financial assistance. EFC provides financial assistance in the form of subsidized loans and grants, such as through the WIIA program created under the 2015 Water Infrastructure Improvement Act.

2.15 Environmental Protection Agency (EPA)

The Environmental Protection Agency (EPA) protects human health and the environment by developing and enforcing regulations, conducting research, providing education, and issuing grants. EPA sets and enforces national standards and federal environmental laws, and cleans up contaminated sites. EPA is ultimately responsible for oversight of key laws affecting both water supply and wastewater management, including the National Pollutant Discharge Elimination System (NPDES); oversight of states, local governments, and water suppliers to enforce the standards under the Safe Drinking Water Act; and regulation of solid and hazardous waste. Importantly, EPA also administers critical funding sources supporting investment in drinking water and clean water (wastewater management) infrastructure.

2.16 Gallons per Day (GPD)

Gallons per day is a unit of measurement that defines the rate of volume flow, or use, for a liquid, such as water, over a 24-hour period. GPD is often used as a measurement of, e.g., the quantity of water consumed by a user or the amount of wastewater generated over the course of a day.

2.17 Gallons per Minute (GPM)

Gallons per minute is a unit of measurement for flow rate, indicating the volume of a liquid that passes a specific point in one minute. GPM is often used to indicate, e.g., the capacity of a water well.

2.18 Individual On-Site Facilities or Systems (Water or Sewer)

As used in this report, individual facilities (or systems) are a subtype of decentralized infrastructure serving a single user, most commonly via on-site water supply wells and septic systems. These wells and septic systems are mainly regulated under building codes, the NYS sanitary code (administered by NYSDOH), and NYSDEC (i.e., with respect to water well drilling and licensing of well drillers). However, these systems may also be regulated

similarly to centralized systems, depending on capacities and types of uses or users served (see Regulated Decentralized Systems).

2.19 Inflow and Infiltration (I&I)

Inflow is when storm water enters the sanitary sewer system (e.g., from a sump pump or roof leader), while infiltration is when groundwater seeps into the system (e.g., due to high groundwater and defects or cracks in pipes and manholes). Both are problems for wastewater treatment, as this "clean" water adds unnecessary volume to the system, which can overload treatment plants or reduce capacity in elements of the conveyance system, such as pipes or pump stations.

2.20 Influent (WWTP)

Influent flow refers to the incoming wastewater that enters a wastewater treatment plant. It is measured at a point prior to the wastewater entering any portion of the treatment process.

2.21 Maximum Contaminant Level (MCL)

MCL is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal (MCLG) as possible. MCLG is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. MCLs are required to be reported on a water system's AWQR.

2.22 Methyl Tert-Butyl Ether (MTBE)

Methyl tert-butyl ether is a chemical historically used as a gasoline additive. It is a type of volatile organic compound (VOC) that can contaminate groundwater by evaporating easily and dissolving in water.

2.23 Million Gallons per Day (MGPD)

Million gallons per day is a unit of measurement that defines the rate of volume flow, or use, for a liquid, such as water, over a 24-hour period, reported in increments of 1 million gallons. MGPD is often used as a measurement of water produced by a source or wastewater treated at a WWTP over the course of a day.

2.24 Municipal System (water or sewer)

This is the term used throughout the report to denote ownership by a municipal corporation, such as a village or town, of a centralized water supply or wastewater management system.

2.25 New York State Department of Health (NYSDOH)

NYSDOH is responsible for administering the rules and regulations governing both water supply and wastewater management. Under regulatory power delegated by USEPA, NYSDOH regulates public water systems, including community water systems, in NYS. NYSDOH also regulates certain wastewater management systems under an agreement with the New York State Department of Environmental Conservation (NYSDEC); NYSDOH-regulated systems typically include residential septic systems and other wastewater facilities with a flow of less than 1,000 GPD.

2.26 Non-Community Water System

According to NYSDOH, a non-community water system is a public water system (i.e., a water system with at least 5 service connections or that regularly serves an average of at least 25 people daily for at least 60 days out of the year) that serves the public but does not generally serve the same people year-round. There are two types of non-community water systems: transient and non-transient non-community water systems.

- Transient Non-community Water System – A transient non-community water system is a non-community water system that serves different people for more than six months out of the year. Rest stops, parks, convenience stores, and restaurants with their own water supplies are examples of transient non-community water systems. In Sullivan County, summer camps that maintain their own water systems are also examples of transient non-community water systems.
- Non-transient Non-community Water System – A non-transient non-community water system is a non-community water system that serves the same people more than six months per year, but not year-round. Schools, colleges, hospitals, and factories with their own water supplies are examples of non-transient non-community water systems.

Non-community water systems are regulated by NYSDOH as public water systems (see public water system discussion in this Glossary). For purposes of this report, these systems are discussed where information is available.

2.27 NYC Watershed Boundary

The NYC Watershed Boundary encompasses the NYC watershed, defined as the land area contributing surface water to the New York City water supply. Activities within the NYC watershed are subject to the City of New York's Rules and Regulations for the Protection of Contamination, Degradation, and Pollution of the New York City Water Supply and its Sources. This includes wastewater management systems, such as individual on-site septic systems and wastewater treatment plants.

2.28 NYSDEC Water Withdrawal Permit

Any water withdrawal system with the capacity to withdraw 100,000 gallons per day (GPD) (also referred to as "threshold volume") or more of surface water, groundwater, or a combination thereof requires registration with, permitting from, and reporting to NYSDEC, pursuant to Part 601 of the New York Compilation of Codes, Rules, and Regulations (NYCRR).

2.29 Other System (water or sewer)

This is the term used throughout the report to denote ownership by a non-municipal entity, such as a mobile home park, industrial campus, or homeowner’s association, of a centralized water supply or wastewater management system.

2.30 Per- and polyfluoroalkyl substances (PFAS)

According to the EPA, PFAS are widely used, long-lasting chemicals, components of which break down very slowly over time. Because of their widespread use and persistence in the environment, many PFAS are found in the blood of people and animals all over the world and are present at low levels in a variety of food products and in the environment. PFAS are found in water, air, fish, and soil at locations across the nation and the globe. Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals. There are thousands of PFAS chemicals, of which are found in many different consumer, commercial, and industrial products. Questions remain in terms of how to better detect these compounds, the extent of human exposure, the magnitude of human and environmental harm, and how to manage these chemicals. Under recent rulemaking, the EPA will regulate five PFAS individually. They are PFOA, PFOS, PFNA, PFHxS, and HFPO-DA. EPA will regulate four PFAS as a mixture: PFHxS, PFNA, HFPO-DA, and PFBS.

2.31 Public Service Commission (PSC) Docket

A PSC docket is a file for a specific case or proceeding containing official documents, hearing transcripts, and public comments related to the regulation of utility companies, such as those for electric, gas, and water services. Certain privately owned centralized sewer systems and water supply systems are regulated by PSC pursuant to the NYS Transportation Corporations law. In general, sanitary conveyance and treatment systems serving more than one service connection (NYSDEC SPDES Permit regulations (6 NYCRR 750-1.6(f)) and water supply systems -- except municipally-owned systems - selling, furnishing, and distributing water for domestic, commercial and public purposes (Art. 4-B of the NYS Public Service Law) are regulated by PSC with respect to rates, charges, and other aspects of utility operations.

2.32 Public Water System

Pursuant to federal and NYS regulations, a public water system is defined as one that provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year. A public water system may be publicly or privately owned.

2.33 Ragging

As used in this report, "ragging" refers to the accumulation and entanglement of fibrous, non-biodegradable debris in and around the impellers of wastewater treatment pumps, including, but not limited to, wet wipes, rags, hair, and plastics. This phenomenon creates rope-like bundles that obstruct flow, reduce efficiency, and cause costly maintenance issues.

2.34 Regulated Decentralized System (Water Supply or Wastewater Management)

A regulated decentralized system is a subcategory of decentralized infrastructure that is regulated similarly to centralized systems. Regarding water supply, this term includes a public water system, as defined by NYSDOH in regulation, that typically is privately owned but may also include systems owned by municipalities. It encompasses centralized and certain decentralized water supply systems, but also other public water systems, such as those serving restaurants. In addition to NYSDOH, these systems may also be regulated by NYSDEC and DRBC (for water withdrawals). Regarding wastewater management, these systems may discharge to surface water or groundwater and require SPDES permits (i.e.,

capacity to discharge 1,000 gpd or more). Depending on their location, these systems may also be regulated by DRBC and/or NYCDEP.

2.35 Rotating Biological Contactors (RBC)

An RBC is a fixed-film treatment process used in the secondary treatment of wastewater. It consists of a series of closely spaced, parallel discs mounted on a rotating shaft, which is supported just above the surface of the wastewater. Microorganisms grow on the surface of the discs, where biological degradation of pollutants takes place prior to discharge into the environment.

2.36 Service Area

As used in the report, service area refers to the geography within which users may be served by centralized water or sewer systems.

2.37 Special District (e.g., water district or sewer district)

A special district refers to the special-purpose government vehicle that towns and counties in NYS are authorized to create for the purpose of providing a service. In this report, special district generally refers to the authority for NYS towns to create water districts and sewer districts pursuant to NYS Town Law Article 12 and Article 12-a. A special district has three discrete elements: The legal requirements governing formation and operation, the taxation and administration by which a town provides water or sewer service, and the engineering and design of the infrastructure supporting the provision of these services. NYS General Municipal Law Art. 17-a also provides for the consolidation of water and sewer districts. In NYS, villages do not have the authority to create special districts and instead provide water and sewer service pursuant to Articles 11 and 14 of the NYS Village Law, respectively.

2.38 State Pollutant Discharge Elimination System (SPDES)

SPDES is the permit program in NYS that addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. NYSDEC administers the program under authority created in 1972 by the Clean Water Act, known as the NPDES permit program. Under NPDES, state governments are authorized by the EPA to perform many permitting, administrative, and enforcement aspects of the program. In this report, SPDES and associated NYSDEC permitting refer to the outlet or discharge pipe (referred to as a "point source") that discharges sanitary wastewater into the surface waters or ground

waters of the state, and constructing or operating a disposal system such as a sewage treatment plant.

2.39 State Pollutant Discharge Elimination System (SPDES) Permit "Administrative" or "SAPA" Renewal

SAPA renewal (or continuation; also called "administrative renewal") is the process by which certain SPDES permits may be issued without a full technical review by NYSDEC. It typically occurs on a 5-year cycle, based on the date of permit issuance. Authority for SAPA renewals lies in NYS's State Administrative Review Act (SAPA). Provided a SPDES permittee makes a timely application to NYSDEC for renewal of an existing SPDES permit, NYSDEC may authorize, administratively, that permittee to continue to operate their regulated discharge. This continuation is typically permitted under the terms and conditions of the prior SPDES permit. It is important to note that SAPA renewal can result in situations where a SPDES permit, after several SAPA renewal cycles, may get out of alignment with applicable standards, and compliance with contemporary standards can ultimately require capital investment.

2.40 State Pollutant Discharge Elimination System (SPDES) Environmental Benefit Permit Strategy (EBPS)

"Also known in NYS regulation as a Modification Priority Ranking System, EBPS is the system that establishes procedures to manage State Pollutant Discharge Elimination System (SPDES) permit renewal applications in a manner that prioritizes permits based upon their potential or actual impact to the environment. Under this system, SPDES permit holders are assigned a score and rank that then determines the order in which NYSDEC staff carry out a full technical review to determine whether a permit needs modification. Facilities are assigned a score for applicable priority ranking factors, each of which is then multiplied by a value according to assessed potential impacts to water quality. A longevity factor is applied based on the permit type and time since full technical review (long form permit application). These scores are added together, and a rank is assigned. The higher the EBPS Permit Priority Score, the higher the priority that permit has for full technical review and modification initiated by NYSDEC."

2.41 State Pollutant Discharge Elimination System (SPDES) Permit Full Technical Review

Full technical review is the process by which NYSDEC reviews applications for SPDES permits. It is in contrast to SAPA renewal. Full technical review may be initiated by NYSDEC or may be initiated due to a permittee's request to modify their existing permit (e.g., to

increase the flow of a WWTP). Reviews are performed based upon potential water quality impact or major changes to the facility's flow and wastewater treatment system. The process involves determining whether new effluent limits and other permit requirements, such as best management practices or a compliance schedule, are needed.

2.42 Submersible Chopper Pumps

This type of pump is a centrifugal pump designed for liquid submersion, which is equipped with a cutting system that "chops" up all incoming solids prior to pumping to minimize clogging within a wastewater system.

2.43 Sullivan County Partnership

Officially "The Sullivan County Partnership for Economic Development", is a private not-for-profit corporation that serves as the one-stop resource for business development in the County. The Partnership is a team that works to find the most advantageous and cost-effective locations for the expansion of industry and supports small business development by providing guidance and technical assistance through a variety of financing options.

2.44 Trickling Filters

A trickling filter is a step in pollutant removal at a wastewater treatment facility that uses microorganisms to remove organic matter by distributing it over a fixed bed of porous sediment.

2.45 Variable Frequency Drive (VFD)

A variable frequency drive (VFD) is an electronic device that controls the speed of an AC motor by adjusting the frequency and voltage of the power supplied to it. VFDs are energy efficient when demand on a motor or system varies, as VFD output can be varied based on demand or load. This is in contrast to across-the-line drives, which operate at full voltage and cannot be varied.

2.46 Wastewater Treatment Plant (WWTP)

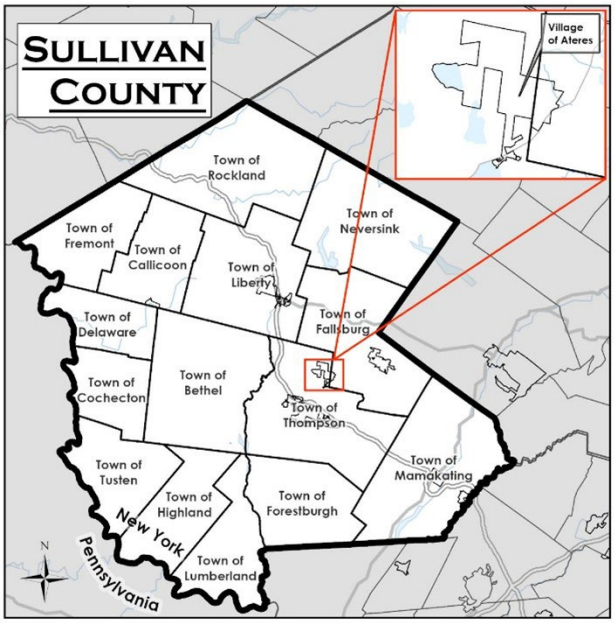
A wastewater treatment plant is the location at which pollutants are removed from wastewater collected, and is a critical element of a wastewater management system. WWTPs typically involve several processes. Preliminary treatment is the measurement, screening, and removal of inorganic material (grit). Primary treatment is a physical settling process that removes larger solids (e.g., in a settling tank or clarifier). Secondary treatment

is a biological process in which dissolved solids are converted by microorganisms into a cellular or biological mass that can be later removed (e.g., in a secondary clarifier). Tertiary or advanced treatment involves disinfection (e.g., chlorine or UV light) as well as nutrient, additional solids, or biochemical oxygen demand (BOD) removal.

2.47 Water Distribution System

Water distribution system refers to the system elements that convey water from the source of supply to individual user connections. It includes infrastructure like pipes (water mains), valves, treatment facilities, storage tanks, and booster stations. Hydrants may be connected to the distribution system and serve water supply functions, such as flushing of mains, but hydrants also serve as part of fire suppression systems

3. MUNICIPAL OVERVIEW



The Village of Ateres was officially incorporated in 2024 from 128 parcels of land between the Towns of Fallsburg and Thompson and is the newest municipality in New York State. It is located within the eastern-central portion of Sullivan County between the Hamlets of South Fallsburg, Kiamesha Lake, Harris, and Hurleyville, and includes portions of Kiamesha, Baileys, and Anawana Lakes. The Village's 925 acres are split, with 133 acres in the Town of Fallsburg and 792 acres in the Town of Thompson. Currently, the primary areas of settlement are located along NYS Route 42 and at the intersection of Barnes Boulevard and Gibber Road, where the Viznitz Hasidic community was originally sited. The Village developed around the lands and buildings of the former Gibber Hotel. The population was 834 as of 2024 and is poised to grow substantially over the next decade. The Village supplies water treatment, water distribution, sewer collection, and sewer treatment services through a mix of public and private systems. The Village lies entirely within the DRBC boundary and entirely outside the NYC watershed boundary.

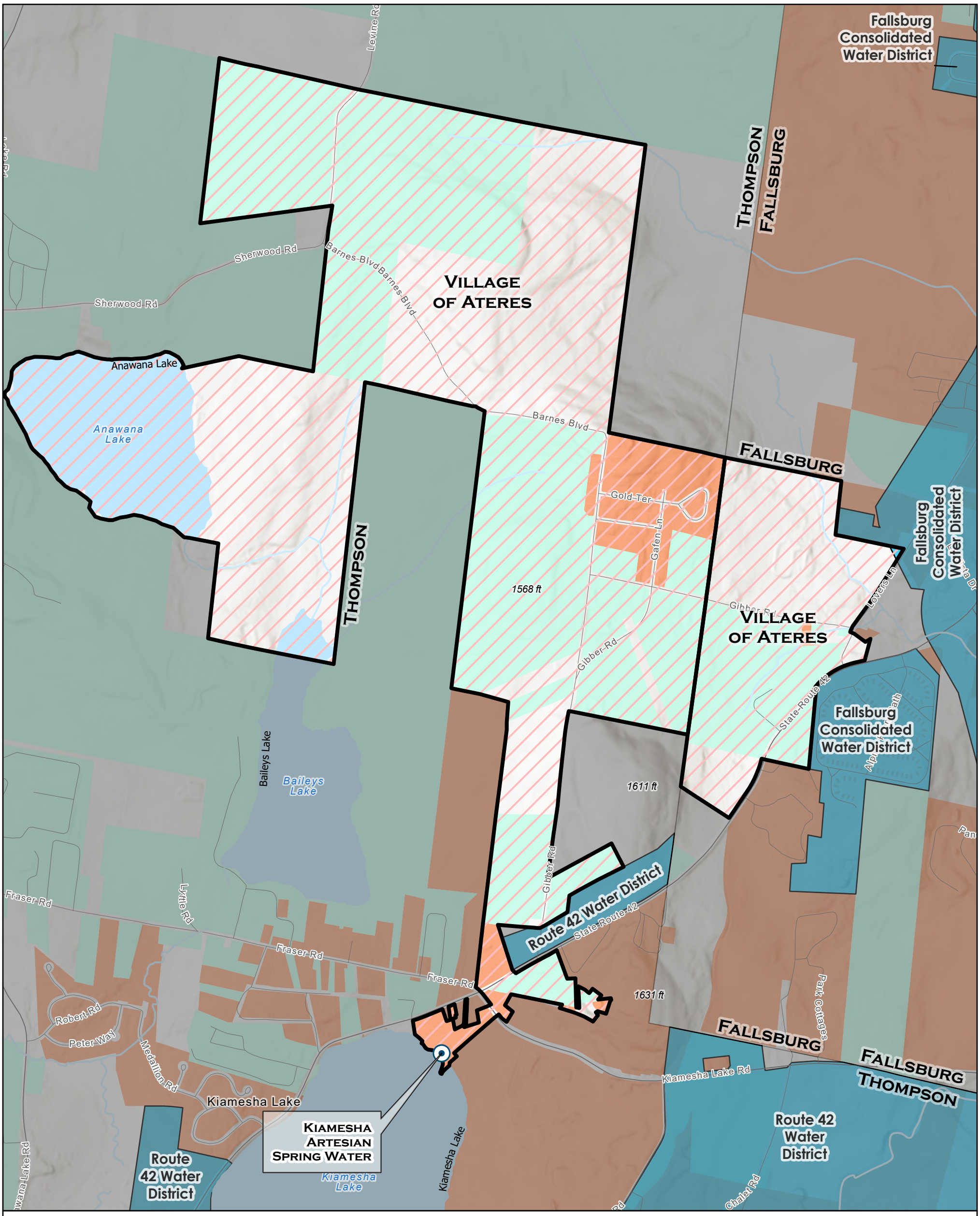
4. WATER SUPPLY AND DISTRIBUTION INVENTORY & EVALUATION

4.1 Municipal Systems

As of this writing, the Village does not own or operate any centralized water systems.

4.2 Other Systems

The Village is exclusively supplied with water by the Kiamesha Artisan Spring Water Company, Inc. (KASWC), which is privately owned. Except for the KASWC, according to information reviewed for this report, no regulated community water systems or water users requiring a NYSDEC water withdrawal permit exist in the Village. Therefore, although



Village of Ateres Water Facilities Map

Sullivan County, New York

Prepared by: Delaware Engineering, DPC
Date: January 2026
Source: Sullivan County, NYSDEC, ESRI World Terrain

0 0.1 0.2 0.4 0.6 0.8 Miles

N

- Village Water Service Area
- Municipal Water Service Areas
- Centralized or Regulated Decentralized Service
- Individual On-Site Systems
- Delaware River Basin (Entire Village)
- NYC Watershed (Entirely Outside)
- Other Municipalities
- Stream
- Waterbody

privately owned, KASWC is discussed in a higher level of detail in this section as compared to other privately owned systems in the County evaluated as part of this effort.

4.2.1 System Components Inventory and Overview

The Village's water supply is the Kiamesha Artisan Spring, and this water supply source and the distribution system are presently owned and operated by the KASWC. The well at the filtration plant is reported to have been developed prior to 1900. The WTP was constructed in 1962, and the original storage tank dates to the 1960s (with a newer tank built in 1989). The plant remains little changed since 1999, following DOH-directed improvements.

Table 1. Kiamesha Artesian Spring Water Company Water withdrawal permit information

Water System	Component	Max Rate (GPD)	Average Daily w/d	Peak Day w/d	NYSDEC Permitted w/d	DRBC Permitted w/d
Kiamesha Artesian Spring Water Co.	Filter Plant Well	129,600	128,619	132,000	550,000	730,000
	Frasier Road Well	98,000				
	Kiamesha Lake	274,000				

KASWC is a privately-owned company that produces and supplies potable water to an estimated 450+ residential and commercial users (including the approximately 200 located in the Town of Thompson's Route 42 Water District) along Route 42 and west of the Kiamesha Lake. According to water withdrawal reporting and DRBC docket information, the system has a permitted withdrawal of 550,000 GPD.

Water is drawn almost exclusively from a well reported to be between 80-ft and 110-ft deep at the filter plant at the north end of the lake. This well, known as the Filter Plant Well, according to DRBC docket information, has a permitted withdrawal of about 132,000 GPD. The well includes a surface outlet in a heated enclosure that also houses the meter. The water drawn from the well is pumped into an atmospheric storage tank and then into the distribution system.

A second well, the Fraser Road Well, is located on Frasier Road. The well is permitted to take about 98,000 GPD. The well was drilled, tested, and permits issued, but no further work has been completed to develop the well or connect it to the system. To utilize this water source, a pump and sealed pit-less unit would need to be installed, a disinfection system constructed, and a connector line extended to the water mains.

In addition to the wells, KASWC is permitted to draw about 274,000 GPD of water from Kiamesha Lake; however, water from the lake requires filtration (in conformance with the Enhanced Surface Water Treatment Rule II). The method of filtration for Kiamesha Lake water (as reported by the Operator in 2012) was a single-stage sand filter, which may not meet the standards applied by NYSDOH. As a result, the use of the filtration equipment has been discontinued, and the plant is reportedly inoperable at this time. Therefore, the Kiamesha Lake source is unavailable to meet system demands.

Raw water is disinfected using liquid chlorine and pumped into the distribution system. Water storage is provided by two steel tanks with a combined capacity of 1.4 MG. The storage tanks are located north of CR 109, across from the old Concord Hotel site on land reportedly owned by KASWC and accessed through easements. They are approximately 1580 ft in elevation and provide a pressure of 70 to 80 psi at the water plant. The 440,000-gallon tank roof has buckled across its entire width, a condition that reportedly occurred due to wet, heavy snow and rain. The partially collapsed roof renders this tank unreliable and undesirable for service.

The operator's report submitted to the DOH states that the system has approximately 5 miles of water main for which the KASWC provides maintenance; however, based on the reported extent of the service area, the water mains owned by the KASWC may be much more extensive. Due to the age of the original KASWC system, much of the watermain is a flush-joint bolted cast iron pipe. The operator reports that the mains do leak, and breaks are reported, which require boil water orders due to low water pressure and/or conduct of repairs. Given the age of many of the mains, the amount of water lost, and the frequency of breaks, are expected to increase over time.

Over the past several years, KASWC has been cited for numerous health and safety violations by NYSDOH, and boil water notices are a common occurrence. In late 2024, a group of investors filed a petition with the Public Service Commission (PSC) to approve the transfer of 51% of the company's stock to ensure its continued operation. PSC approved the transfer in October 2025. The water drawn from the Filter Plant Well meets routine water quality standards in accordance with NYSDOH regulations.

In a comment letter to the PSC, the NYSDOH expressed concerns about the magnitude of the work that would be needed to bring the system into compliance.

Finally, based on information available, no additional regulated private water systems appear to be situated within the Village.

4.2.2 Recent/Future Upgrades

According to PSC docket information, the system operated by the KASWC is presently not in compliance with NYSDOH directives. Projects identified as necessary are anticipated to cost approximately 3.3 million dollars and are intended to bring KASWC's existing water supply system into compliance with NYSDOH requirements. For more detailed information, see the Town of Thompson report, **Error! Reference source not found.** section.

The Village plans to invest an estimated $35 M into the upgrades and expansion of the water distribution system. The Village intends to work to secure grants and loans, draw extension plans, and conduct a water treatment pilot study. The buildout of the water system in the Village will continue throughout the Village boundary over the next few decades. The municipality is planning for an expansion from 200,000 GPD to 1,000,000 GPD. This buildout will include substantial extensions of the water mains to reach the largely undeveloped lands of the new Village. Approximately 15% of the land area has currently been developed, leaving roughly 800 acres of potential development area.

4.2.3 Finances and Administration

As part of the data collection process, information about system finances for the KASWC and budgeting was researched from publicly available sources. This information, where available, was used in order to develop an understanding of key metrics, including revenues and trends, expenses and trends, rate structure, revenues versus expenditures, debt service, and reserves.

Analysis of available financial information against the following metrics is as follows.

- Revenues and trends – Revenue appears to be derived exclusively from metered water sales and monthly minimum service charges. According to IRS filings, revenues between 2021 and 2023 varied by as much as 22%. Between 2021 and 2023, it appears that unpaid water bills may have been between 12% to 16% as a proportion of total revenues recorded.
- Expenses and trends – Cost of water includes chemicals and energy, and between 2021 and 2023 was about 9%-10% of expenditures. Over that same period, compensation of personnel was about 18%-20%. Overhead costs ranged from 52% to 81% between 2022 and 2023, with the increase mainly due to grounds maintenance expenses.

- Rate structure – Rates are governed by PSC regulation and appear to have been in place since the early 1990s. Rates are based on water use with a minimum monthly charge that varies by the size of the meter.
- Revenue versus expenditures – Revenues appear to have exceeded costs in 2021 and 2022 but were less than costs by about 13% in 2023.
- Debt service – IRS filings show debt service is about 15% of expenditures.
- Reserves – Until the mid-2010's, KASWC was approved by PSC for the establishment of a $15,000 escrow account for "extraordinary expenses," but has since eliminated this fund.
- Water use law – KASWC is a private water supply company and does not have the authority to adopt legislation.

4.3 Challenges and Opportunities

According to recent PSC docket information, there are substantial improvements that will need to be undertaken for the water system to be brought into compliance with NYSDOH directives and to commence the use of surface water sources. Also, according to these PSC filings, a new ownership group has acquired KASWC, and this represents an opportunity with respect to the needed improvements and corrective actions necessary to address documented compliance and infrastructure issues with the water supply facilities.

Anticipated growth of the Village population and further development within the Village boundaries present an opportunity to proactively plan for the installation of a water supply system able to serve this growth, and to create a framework for orderly, efficient creation and expansion of this service, including identified needed upgrades.

As noted above, KASWC supplies users in the Town of Thompson Route 42 water district. With the creation of the Village, modifications to the Town of Thompson's water district are likely necessary, given special district requirements under NYS Town and Village law. Given proximity and operational parameters, it may be possible to interconnect the Town of Thompson and, therefore, the Village system with the Village of Monticello water supply system. In general, such interconnections provide greater resiliency, including in the event of an emergency, and can, depending on system characteristics, provide hydraulic and other system-level benefits.

5. SANITARY SEWER AND WASTEWATER TREATMENT INVENTORY & EVALUATION

5.1 Municipal Systems

The Village is presently provided sewer service by the Town of Thompson, primarily by the system serving the municipal system encompassed by the Kiamesha Lake Sewer District. Ninety-four of the 136 parcels in the Village are included within the Town of Thompson's sewer district boundary, while one is included within the Town of Fallsburg's consolidated sewer district.

5.1.1 System Components Inventory and Overview

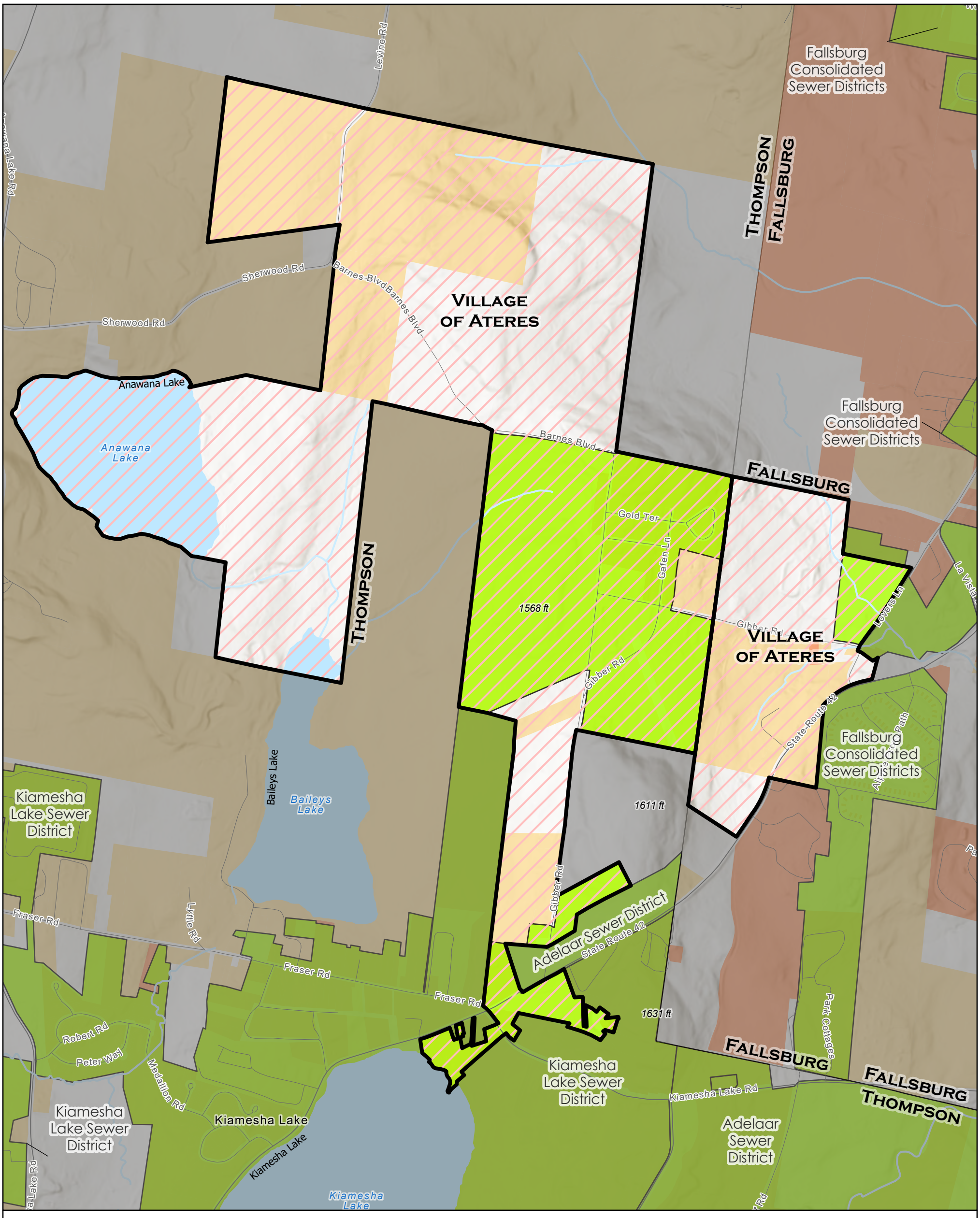
The Kiamesha Lake Sewer District currently serves the area surrounding Kiamesha Lake, including the Route 42 commercial district. It also serves several residential developments, such as Harris Woods on Old Liberty Road, and Forest Park Estates and Parkside Estates on Anawana Lake Road.

Wastewater is collected through a 7-mile network of district-owned piping and three sanitary sewer pump stations. Minor I&I has been documented. The system collects and conveys wastewater to the Kiamesha Lake WWTP. The WWTP is currently operating at approximately 25% of its permitted capacity. The plant is generally in good condition, but has incurred SPDES permit violations that, according to officials, can be traced to aging equipment. For more information, see the Town of Thompson report: **Error! Reference source not found.** section.

5.1.2 Recent/Future Upgrades

The Town of Thompson is planning a comprehensive upgrade project at the Kiamesha Lake WWTP that includes installation of new UV disinfection equipment and an aerobic digester to reduce the Town's reliance on landfills for sludge disposal is in the final stages of design and permitting. As of this report, approximately $20.4 M in state and federal grants have been secured for the project.

Separately, the Village is investing an estimated $25 M into upgrades and expansion of the sewer collection system. The Village intends to work to secure grants and loans, drawing extension plans, and starting the planning process for the construction of a new 1,000,000 GPD WWTP. The buildout of the sewer system in the Village will continue throughout the Village boundary over the next few decades. The Village is planning for future needed



Village of Ateres Wastewater Facilities Map

Sullivan County, New York

Prepared by: Delaware Engineering, DPC
Date: January 2026
Source: Sullivan County, NYSDEC, ESRI World Terrain

0 0.1 0.2 0.4 0.6 0.8 Miles

N

capacity of 1,000,000 GPD. This buildout will include substantial extensions of the sewer mains to reach the largely undeveloped lands of the new Village.

5.1.3 Finances and Administration

The Village does not presently operate a municipal sewer system and, therefore, no financial information was reviewed as part of this effort.

5.2 Other Systems

According to information reviewed for this report, no regulated decentralized sewer systems or other wastewater treatment systems requiring a SPDES are currently operating in the Village.

5.3 Challenges and Opportunities

Anticipated growth of the Village population and further development within the Village boundaries present an opportunity to proactively plan for the implementation of a sewer system to serve this growth and to create a framework for orderly, efficient creation and expansion of this service. Based on operational parameters of the existing sewer service provided by the Town of Thompson, capacity may be available in the WWTP to accommodate additional flow.

6. METHODOLOGY AND SOURCES

In preparing this report, publicly available data were collected and reviewed, along with any additional documentation supplied by a municipal representative, county office, or other authoritative sources. In addition, the project team contacted and interviewed key individuals who have specialized knowledge of their local systems. The following is a list of sources consulted.

- June 2-23, 2025, Written and Verbal Correspondence with Fusco Engineering & Land Surveying, PC – Alfred A. Fusco, Jr., P.E.
- DRBC docket NO. D-1990-068 CP-4
- Kiamesha Artesian Spring Water Company 2024 Water Withdrawal Report (WWR0000853)
- Kiamesha Artesian Spring Water Company District 2022 Annual Water Quality Report (AWQR) (NY5203344)

- December 9, 2024 Joint Petition [to PSC] for Approval, Pursuant To Section 89-H Of New York Public Service Law Of The Purchase Of 51% Of Kiamesha Artesian Spring Water Company's Issued And Outstanding Common Stock