

RESOLUTION OF THE COUNTY COUNCIL OF FREDERICK COUNTY, MARYLAND

RESOLUTION NO. 25-40

RE: SUMMER 2025 CYCLE WATER AND SEWER AMENDMENTS – CASE WS-25-18

Applicant: Frederick County Division of Planning and Permitting

RECITALS

Pursuant to the authority contained in §9-503 of the Environment Article of the Maryland Code, the governing body of Frederick County, Maryland, has the authority to approve or deny amendments to the Frederick County Water and Sewerage Plan (“W/S Plan”) after a duly advertised public hearing.

Case WS-25-18 proposes certain text amendments to Chapters 3 and 4 of the Frederick County Water and Sewerage Plan to reflect changes to the Water and Sewer Infrastructure Maps approved by the Maryland Department of the Environment (MDE) in the Spring 2025 cycle Case WS-25-09. MDE noted that 12 of the 60 infrastructure changes made in WS-25-09 did not appear to have corresponding narrative elements in the Water and Sewerage Plan. Case WS-25-18 has been prepared in response to MDE’s request to update the Plan. Edits are reflected in Attachment A.

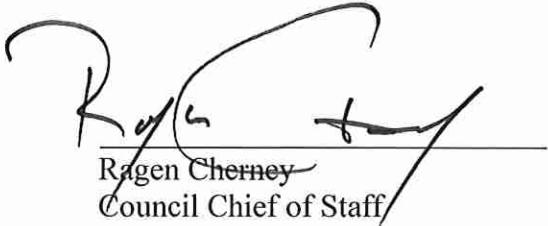
The County Council of Frederick County, Maryland, held a duly advertised public hearing on the proposed W/S Plan amendment on November 18, 2025, at which time the public had the opportunity to comment.

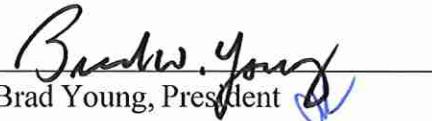
NOW, THEREFORE, BE IT RESOLVED BY THE COUNTY COUNCIL OF FREDERICK COUNTY, MARYLAND that the W/S Plan amendment requested in Case WS-25-18, containing certain text amendments to the Water and Sewerage Plan to reflect changes to the Water and Sewer Infrastructure Maps approved by the Maryland Department of the Environment in the Spring 2025 cycle Case WS-25-18, is hereby necessary and approved.

The undersigned hereby certifies that the amendment described in this Resolution was approved and adopted (by a vote of 7-0) on November 18, 2025.

ATTEST:

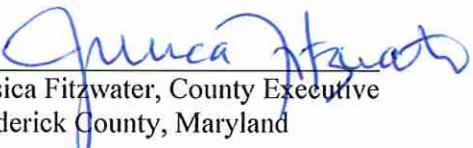
COUNTY COUNCIL OF
FREDERICK COUNTY, MARYLAND


Ragen Cherney
Council Chief of Staff

By: 
Brad Young, President 

Received by the County Executive on 11/21/2025

COUNTY EXECUTIVE ACTION: Approved Vetoed No Action


Jessica Fitzwater, County Executive
Frederick County, Maryland

Date 11/24/25

Attachment A: Text Edits to the Water & Sewerage Plan

Table 3-10: DWSU Water System Pressure Zones

Pressure Zone	Tank Overflow Elevation (ft.)	Service Area	
		Minimum Elevation (ft.)	Maximum Elevation (ft.)
1	473	242	373
2	610	373	510
3 East	700	469	600
3 West	737	506	637
4	870	639	770
5	1021	790	921

DWSU's water systems rely on a combination of water storage systems to maintain an adequate, reliable hydraulic gradient across the water distribution system. DWSU's water systems pressure zones are established by the overflow elevation of its reservoirs (tanks), standpipes and elevated tanks. Reservoirs and standpipes constructed at defined elevations and or elevated water tanks are used on most DWSU distribution systems to provide gravity water storage. Only DWSU's smallest water systems rely on pump storage supply with either ground tanks or standpipes used for supply. The only exception to this would be those homes served by the Jordan Tank in the area west of New Market.

Frederick County's topographic relief (1,695 feet) necessitates the need for multiple pressure zones. To the extent possible categorized pressure zones have been established to facilitate coordination and connection of DWSU's water storage tanks.

DWSU currently has 17 water storage tanks operating in the 6 active DWSU categorized pressure zones. These tanks and their particular pressure zones and configurations are shown in Table 3-11. Table 3-11 only shows water storage tanks that are part of the New Design system that are in permitting, under construction, or constructed. However, as projects proceed through the development process, the need for an elevated water storage tank may be identified as necessary for a project or location. These symbols are added to the Water Infrastructure Map, typically through the piecemeal amendment process, but may not necessarily be listed in Table 3-11 because the project is still in the planning stages. This includes the water storage tank as part of the Alpine residential subdivision (part of the Linganore Planned Unit Development).

Table 3-11: DWSU Pressure Zones/Water Storage Tanks

Tank Name	Overflow (Ft. AMSL)	Dimensions		Construction Type	Capacity (MG)	Note
		Height	Diameter			
Pressure Zone 1						
Ballenger 1 (MD 85)	473.0	144	50	Steel/Elevated	0.50	
Ballenger 2 (Reich's Ford, Public Safety site)	473.0	44	112	PSC/Tank	2.5	(1)
Ballenger 3 (Hannover)	473.0	69	70	PSC/Tank	2.0	(2)
Point of Rocks	473.0	122	75	Steel/Elevated	1.0	(3)
Pressure Zone 2						
Ballenger 4	610.0	182	67	Comp./Elevated	1.0	(4)
Linganore 1	610.0	50	47	Steel/Tank	0.70	
Linganore 2	610.0	48	90	PSC/Tank	2.5	(5)
Urbana 2 (Pontius Ct)	610.0	88.5	87	Comp./Elevated	1.5	(6)
Copperfield	660.0	114	41	Steel/Elevated	0.20	
White Rock 1	610.0	14	47	Steel/Standpipe	0.054	
White Rock 2	610.0	14	47	Steel/Standpipe	0.054	
Pressure Zone 3 (East County)						
Bradford Estates	700.0	25	47	Steel/Standpipe	0.176	(7)
Monrovia	700.0	150	90	Comp./Elevated	2.0	(8) (9)
Pressure Zone 3 (West County)						
Cambridge Farms 1	737.0	98	25	Steel/Standpipe	0.35	
Cambridge Farms 2	737.0	98	25	Steel/Standpipe	0.35	(11)
Libertytown	737.0	156	56	Steel/Elevated	0.50	
Pressure Zone 4						
Fountaindale	870.0	39	70	Steel/Standpipe	0.625	(10)
Samhill	870.0	15	62	Steel/Tank	0.309	
Pressure Zone 5						
Braddock Hts.	1021	46	61	Steel/Standpipe	0.75	

(1) East County System. This reservoir also supplies booster pump system, which supplies Linganore 2 tank in Pressure Zone 2.

(2) Booster pump station located at this reservoir supplies Ballenger 4 located in Pressure Zone 2.

(3) This tank replaced existing non-categorized zone tank in Point of Rocks.

(4) Supplied from booster pump system at Ballenger 3 tank

(5) This reservoir also supplies booster pump system, which supplies Pressure Zone 3.

(6) Supplied from Pressure Zone 1 by Ball Road Booster pump station.

(7) Pumped storage supply system for Bradford Estates Subdivision.

(8) Supplied from Pressure Zone 2 by Jordan booster Pump station located at Linganore Tank 2.

(9) A developer-funded 1 MG water storage tank, Monrovia 2, is approved under construction permit application 21-1056 but not under construction. The tank will be a Comp/Elevated tank 82' high and 74' in diameter.

(10) This standpipe also supplies booster pump system, which supplies Braddock Tank in Pressure Zone 5.

(11) Tank 2 is in the permitting stage and not yet under construction.

In addition to these water storage facilities the County also has several water storage tanks that do not operate by gravity. Some of these tanks are located at WTPs, which in conjunction with pumping systems, supply water to the various pressure zones. In some cases, such as the New Design, Bradford Estates,

In addition, the City has contracted with consultants to do a complete analysis of the water treatment plant to bring the treatment capacity to 2.2-2.5 MGD by 2050.

Planned Improvements

The following improvements are planned to increase the efficiency of the plant to meet water demand:

- Installation of valves and system modifications to pump sediment collected in the pre-sedimentation basin to the WWTP digester tank.
- Installation of new stainless-steel screens on the water intake in the Potomac River.
- A proposed 150,000 gallons ground storage tank will be constructed at Yourtee Springs.
- The 3,000,000 gallons reservoir will be demolished and replaced with two new concrete ground storage tanks. The tanks will be constructed in two phases and each will be 1 million gallons. The storage was originally conceptualized to be constructed as part of the Springdale Summit project on the Cooper property (1530 Souder Road). During APFO review, the City has concluded they should be constructed on the site of the reservoir. The developer will contribute \$2 million to the project.
- Third sediment basin
- Sludge removal system
- UV disinfection

Fort Detrick

Fort Detrick is a U.S Army Installation Management Command (IMCOM) facility. The U.S. Army Garrison, Fort Detrick, provides sustainable base operations support, quality of life programs, and environmental stewardship to facilitate the sustainment of vital national interests. Ft. Detrick supports 5 (five) cabinet-level agencies: the Department of Defense, Department of Veterans Affairs, Department of Agriculture, Department of Homeland Security, and the Department of Health and Human Services. Within the Department of Defense, Ft. Detrick supports elements of all four military services. The primary missions at Ft. Detrick are biomedical research and development, medical logistics and material management and global Department of Defense telecommunications.

Ft. Detrick is located within the City of Frederick and consists of four separate parcels of land designated as Area A, Area B, and two parcels that comprise Area C. Ft. Detrick encompasses approximately 1,212 acres, including 69 acres in Area A owned and operated by Frederick National Laboratory for Cancer Research (FNLCR).

Fort Detrick obtains drinking water from the Monocacy River. The MDE Water and Science Administration has authorized Fort Detrick to obtain a daily average of 2.0 MGD annually from the Monocacy River with a maximum daily withdrawal of 2.6 MGD. Fort Detrick owns, operates, and maintains the Installation water treatment plant (WTP) and distribution system. The WTP has a maximum processing capacity of 4.25 MGD. Source water is withdrawn from the Monocacy River and is processed through the Fort Detrick WTP utilizing Water Appropriation and Use Permit No. FR1943S001 (04). This water allocation permit expired January 31, 2019 but MDE has administratively extended the permit until a new permit is issued. Fort Detrick also has a groundwater appropriation, FR1943G101 (08), for a daily average of 8,000 gallons on a yearly basis and a daily average of 12,000 gallons for the month of maximum use. Water associated with this permit is used solely for aquatic research.

Planned Improvements

Proposed improvements to the Emmitsburg water system are the ongoing maintenance and replacement of existing lines as needed. ~~A water line will be replaced in DePaul Street. All permits have been received for the project. Construction completion is expected within 2024.~~

An additional water plant, proposed for an Emmit Garden location, has been designated but has not yet been approved for construction by the Town Board. The first phase of the plant could provide an additional 468 taps and the second phase could provide 240 taps. Construction of this plant would enable the use of two wells that exist but are not yet active—Well "J" and Well No. 7—located in the Gettysburg Shale aquifer. An in-town storage tank would also be constructed as part of the system improvements. However, the Town is also looking into different treatment options rather than bringing Wells 7 and J online. A DAF is being constructed and the Town will need to conduct additional analysis once the project is complete.

The Town of Emmitsburg recently commissioned a preliminary engineering report of its water system. The report was prepared by McCrone Engineering and completed in January 2023. The study was prompted by reduced flows and pressures due to tuberculated pipe. However, during their analysis McCrone identified additional areas of Emmitsburg could not provide adequate fire flow under standard minimum design criteria conditions. The study recommended, and the Town is pursuing, replacement of the 60-year-old 10-inch cast iron pipe that serves as the main supply line from the water treatment plant with a 16-inch ductile iron pipe. This is approximately 13,000 linear feet of replacement. The study also identified replacements to address tuberculated pipe in North Seton Avenue, West Main Street, and Waynesboro Pike waterlines and upgrading pressure reducing valves (PRVs) in the system.

Wellhead Protection

The Wellhead Protection Area (WHPA) for the Town of Emmitsburg consists of the 1,126- acre watershed of Rainbow Lake, and for the Town wells, the Turkey Creek watershed upstream of the wells plus 1,000' downstream of the wells.

The Wellhead Protection Area for Mount St. Mary's University is the watershed that contributes ground water to the supply wells. The area was modified to account for topography, ground water drainage divides including the down-gradient stagnation points, significant land features, estimating the underlying Frederick Limestone cavernous layer for Wells 3 and 6 by overlaying available geologic maps, and by using a conservative calculation of total ground water recharge during a drought. The WHPA is irregularly shaped and has an area of 624 acres. The entire campus and the small residential community of St. Anthony is included.

City of Frederick

The City of Frederick encompasses 22.1 square miles. The City's 2022 population estimate is 82,175 (MDP 2023). The City utilizes four sources for treated water supply: The Monocacy River, Linganore Creek, Fishing Creek Reservoir, and the Potomac River. Although the safe yield of the Monocacy source has been reduced to zero (MDE Consent Order, 2002), the City has gained the use of up to 8 mgd (maximum day) from the County's Potomac River New Design Water Treatment Plant. The combined safe yield of the sources listed above is 14.89 mgd (maximum day).

The City's water service area consists of two pressure zones (462 and 595). There are three elevated and one ground level storage tanks floating off the 462 zone with a combined storage of 5.0 million gallons.

		(GPD month of maximum use)		
Frederick Limestone <i>Golf Course</i>	10,000	40,000	0	FR1990G007(07)
Weverton Formation <i>Standby Well</i>	3,000	4,000	0	FR1983G007(04)
Totals	13,000	44,000	0	

Through the Potomac River Water Service Agreement, signed in 2006, Frederick County has agreed to supply treated water to the City of Frederick from its recently expanded New Design WTP. The city has funded a share of the expansion of the County's WTP and has the capability to use and pay for up to 5.0 mgd average daily (8.0 mgd maximum day) of treated water through two metered connections to the County distribution system. The City may ultimately procure an additional 2.5 mgd (4.0 mgd, maximum daily demand) under the provisions within the existing agreement.

Existing & Future Water Demand

In 2009, the city received the final version of the 2006 Water Master Plan prepared by Dayton & Knight. The report indicates that the City's water demand (and corresponding production) has seen a significant decrease from an average high in 2001-2002 of 6.8 mgd to 5.8 mgd average daily in 2005. Much of the reduction is attributable to an aggressive leak detection and repair program for the distribution system initiated by the city. The amount of water unaccounted for (leakage) has been reduced from an estimated 24% in the 1980's and 1990's to an acceptable level of 9%.

The 2006 Water Master Plan further pointed out that the per capita water demand has also decreased from an average high of over 130 gpd per capita to about 100 gpd per capita. Using this average demand and population projections within the PRWSA area, Dayton-Knight predicted maximum day water needs of over 19.0 MGD in the year 2030 and 25.0 MGD in the year 2040. The analysis indicated that, given the predicted rate of growth, the City's current supply of 14.89 MGD (safe yield= max. day) and the anticipated additional 4.0 MGD from Frederick County in 2015 will be surpassed by demand in or about the year 2030. An update to the Water Master Plan is in progress where the above numbers will be more accurately revisited.

Planned Improvements

Currently planned City CIP water projects include:

- Dingle/Yellow Springs transmission main
- Walter Martz Road transmission main
- Homewood Water Storage Tank, 1.0 mg and transmission main
- Zone 595 Water Storage Tank, 0.75 mg and transmission main
- Update of Water Master Plan in 2023 /2024 will revisit population projection analysis and necessary water system improvements.
- Ballenger Creek Interconnect Water Pumping Station with a capacity of 3 million gallons per day (MGD).
- The Kellerton residential project will include construction of an elevated water storage tank and relocation (within the project) of the City's 18" raw water line. The raw water line relocation is a joint effort between the developer and the City. For the water storage tank, the City has been collecting funds specifically for the tank and a CIP project is in place.

Town of Middletown

The Middletown Water System area includes the Town of Middletown and its municipal growth area. The municipality centers on an established commercial district along US-40A, has a full complement of elementary, middle, and high schools, and a regional park surrounded by low density residential uses. This system is separate from the adjoining Fountaindale/Braddock system, which is operated by the County though discussions have been held about connecting the two systems for emergency use only.

Existing Facilities

The *Middletown Water System (MD0100018)* presently has 23 municipal wells, with 13 useable and 10 not connected or useable. These wells have yields ranging from 30-65 gallons per minute (gpm). The community also utilizes four springs with a total yield of 100-110 gpm. The total water supply has a production capacity of 0.533 million gallons per day (mgd). There are three existing water treatment plants: the main WTP located west of Hollow Road about one mile north of Alt-40 (WTP-01). WTP-01 receives raw water from a series of springs and wells outside Town limits to the north and around the Hollow Road area. Two other sources of raw water are treated by independent water treatment plants and flow directly into the distribution system: Well 15 (WTP-02) located adjacent to Remsburg Park, and Wells 22 and 23, known as Brookridge (WTP-03) located at Wiles Branch Park. In 1999, the Town completed a Surface Water Treatment Rule Testing program with the cooperation of MDE and received ground water certification of all the spring sets currently in use by the Town. This testing may be required in the future to maintain ground water certification of the Town Springs.

The Town completed construction of a 400,000-gallon water storage tank and distribution line improvements in 1997. In 2021 the Town constructed a new 1-million-gallon prestressed concrete water storage tank. This tank replaced two synthetic rubber lined and covered embankment reservoirs adjacent to Hollow Road. The reservoirs have now been abandoned since the 1 MG water tank is complete. The Town also installed a new 16-inch ductile iron pipe to provide a secondary waterline from the reservoir to the town's water booster pump station and water distribution system for redundancy. In 2024 3,700 LF of 4" cast iron springline was replaced with 6" ductile iron pipe. This improvement provided additional flow capacity from the springs with improved flow rates up to 200 gpm.

Middletown has been divided into three (3) pressure zones, utilizing five Master PRV vaults, located at East Green Street, Cone Branch Drive, Summers Drive, the booster station, and North Pointe Terrace, to reduce pressure in the distribution system prior to entering lower elevations in Town. The water treatment plant was relocated to the reservoir under the 1997 project. The Town has installed iron and manganese removal systems at two (2) of three (3) water treatment facilities.

Table 3-23: Town of Middletown Ground Water Sources

Water Source	Permitted Withdrawal (average GPD)	Permitted Maximum Withdrawal (GPD in month of maximum use)	Average System Demand (GPD)	Permit Number
Wells 1—13, 15, 18, 19 and springs (Catoctin Metabasalt Hollow Creek Watershed)	308,000	390,800	-	FR1974G025(07)
Wells 14, 16, 17 (Catoctin Metabasalt Cone Branch Watershed)	53,500	80,000	-	FR1974G225(06)
Wells 20, 21, 22	25,500	33,200	-	FR1974G125(02)

(Catoctin Metabasalt Catoctin Creek Watershed)				
Totals	387,000	504,000	307,000	

Raw water is chlorinated and pH adjusted with caustic soda at the 2021 reservoir via the new water treatment plant and is conveyed to the Town through a 12- and 16-inch main to the booster pump station prior to entering the distribution system. In 2022, the system had an average daily demand of approximately 307,000 GPD. In 1982, approximately 40% of the mains in Town were upgraded with plastic pipe. The Town completed in 2019 the replacement of the 1893 6" cast iron Main Street waterline. The line was replaced with 8" Ductile Iron pipe with new copper services and outside meters. Additional water main projects completed in 2022 and 2023 are the Remsberg Park interconnection and the Linden Boulevard Main and service replacements. The Water Booster Station was upgraded in 2022 with new piping, valves, VFD's and SCADA controlled process.

The water (and wastewater) treatment facility is 100% powered by solar energy from an 836-kilowatt solar array commissioned by the Town in 2016. The solar installation is directly adjacent to the East Wastewater Treatment Plant and delivers 1,143 MWh of electricity annually to fully power Middletown's water and wastewater facilities.

Existing & Future Water Demands

The Middletown Water System serves a population of approximately 5,239 (MDP 2023) with a current demand of 0.307 MGD (3 year average, 2022). The projected 2030 population is 5,547 persons and an associated drinking water demand of 0.344 MGD. A total of 203 residential units with an estimated population increase of 450 are possible through infill and redevelopment through 2040. The Middletown Water System has 1,703 services connected to the system as of 2023. The Town's water use by service categories is 78.6% Residential; 10.3% Public Facilities; 5.9% Commercial; 0.2% Places of Worship; and 4.9% Apartments according to October 2022 billing data. These uses are consistent for the past six (6) quarters of usage.

The Town of Middletown has its own Water Conservation Public Alert System and accompanying ordinances, which allow the Town to impose reasonable restrictions on the use of water from the municipal water system during periods of short supply, protracted drought, excessive demand or other scarcity of water.

Planned Improvements

The Town of Middletown continues to investigate water sources to increase its water supply. The Town's primary focus over the past ten (10) years has been conservation. A new water treatment plant will be constructed on the Admar property north of the County Park for an active-adult development of 148 units. The Town has been awarded a grant for PFAS removal at WTP-03 (Brookridge) by MDE and will begin the design process in 2025 with completion expected in 2026. In addition, 3,700LF of the 1893 raw water line from the spring sources is in the planning stage and currently funded for 2024. The project will replace 4" east iron from 1893 with 6" ductile iron.

Wellhead Protection

The Town of Middletown has adopted a Wellhead Protection Ordinance. Hyder North America, Inc. conducted a delineation of the Wellhead Protection Area in 2001. Much of the 576-acre WHPA extends beyond the boundaries of the municipality.

A 6-inch force main delivers the water to the Town's larger reservoir water treatment plant south of US 40. The surface water treatment plant uses conventional filtration. The well houses are disinfected with a sodium hypochlorite solution. All but one (1) well in Town is filtered. All sources of water are treated in three (3) existing water treatment plants and incorporated into the water conveyance system. The primary treatment plant is located at the intersection of Canada Hill and Easterday Roads and receives water from the springs, Little Catoctin Creek, and wells in Canada Hill, Saber Ridge, and Catoctin Meadows. Additional smaller plants in the Ashley Hills and Deer Woods subdivisions receive water from wells in those subdivisions. The Deerwoods WTP is currently off-line due to PFAS concerns (information current as of August 2025). Once PFAS filters are installed, the WTP will be brought back online.

The total water supply is permitted for 0.256 mgd. The water treatment plant has a design capacity of 0.300 mgd and current water demand is 0.115 mgd. The Town currently maintains approximately 1 million gallons of storage in the existing reservoir.

Additional water sources have been added to the Town system in the last 30 years through developer contribution of groundwater wells. These groundwater wells are located in the Ashley Hills, Canada Hill, Deer Woods, Quail Run, and Saber Ridge subdivisions, and in Doubs Meadow Park ('Meadow Wells'). All sources of water are treated in three (3) existing water treatment plants and incorporated into the water conveyance system.

The water lines are generally 6, 8 or 12-inch lines with a few older lines with a smaller diameter. Much of the old cast iron piping has been replaced between 2015 and 2017. The Town recently abandoned the 3-inch and 6-inch main lines along Main Street south of Wolfsville Road and replaced those lines with a single 12-inch main to match the 12-inch main that was installed along the Town-owned portion of Main Street in 2014. Water lines are generally extended to serve new development within the Town at the expense of the developer.

Table 3-25: Town of Myersville Ground/Surface Water Sources

Water Source	Permitted Withdrawal (average GPD)	Permitted Maximum Withdrawal (GPD month of maximum use)	Average System Demand (GPD)	Permit Number
Little Catoctin Creek	35,000	150,000	-	FR1964S003(07)
Treatment Plant Well	15,000	25,000	-	FR1987G004(07)
Ashley Wells (3)	22,500	37,600	-	FR1987G104(04)
Deer Woods Well	18,000	20,700	-	FR1987G204(05)
Canada Hill Wells (2)	38,000	46,800	-	FR1988G035(07)
Meadow Wells (2)	27,000	57,000	-	FR1995G022(03)
Reservoir Well	12,500	15,000	-	FR1997G034(04)
Quail Run Wells (3)	27,500	38,500	-	FR2004G001(04)
Saber Ridge/Catoctin Meadow Wells (2)	20,500	30,800	-	FR2003G043(03)
Spring Supply	40,000	60,000	-	FR1987G020(07)
Totals	256,000	481,400	115,000	

Existing and Future Demand

There are approximately 1,854 (MDP 2023) residents within the Town. The Town projects a 2030 population of 2,466. State figures used to estimate average water usage per household is 250 gpd, indicating that the Town should consider an estimate of approximately 250 gallons for residential water usage. However, the Town Adequate Public Facilities Ordinance requires that new development provide 500 gpd for each new unit that is connected to the Town's system.

Under the Town's 2022 Comprehensive Plan, the Town forecasts that the projected future residential development of 341 new dwelling units and the annexation of seven (7) existing dwelling units will result in an increase in water demand by approximately 85,750 gpd; assuming each additional dwelling unit consumes approximately 250 gpd. Projected commercial development will result in approximately 9,000 gpd of additional demand; assuming each additional commercial unit will consume approximately 1,000 gpd. Overall, the total increase of demand for the potable water supply is projected at 94,750 gpd.

Planned Improvements

In addition to accepting new wells from new developments, the Town is planning extensive capital improvement projects through the enterprise fund. The Town is planning a final phase of raw water line replacement for the Town's spring sources on South Mountain. This will likely further reduce leaks and finished water losses. A new water treatment plant was approved in 2013 to treat raw water from the public wells in the Quail Run subdivision. This water treatment plant would not be constructed until Quail Run is built.

The Deerwoods WTP is currently offline due to PFAS. A project to install PFAS filters is currently in the permitting stage (August 2025). A similar project for the Ashley WTP is in the planning phase. Once the project is complete at Deerwoods, upgrades would then be made to the Ashley WTP.

Source Water Protection

In 1996, the Maryland Department of the Environment (MDE) developed a Wellhead Protection Plan for the Town, followed in 2002 by a Source Water Assessment, which included recommendations for protection of Myersville's groundwater supplies. These included:

- Continued water quality monitoring
- Engaging in public outreach and education
- Land acquisition/easements for protecting sources
- Development of a contamination contingency plan for the public water supply
- Incorporating Wellhead Protection Area zoning considerations in land use planning and development review
- Periodic updates to the contaminant source inventory and land use changes

Since completion of the Myersville Source Water Assessment Area report in 2002, the Town has added new sources of groundwater to its public water system. In 2013, the MDE completed and published an update to the 2002 Source Water Assessment report for the Town of Myersville.

A wellhead protection area (WHPA) was originally delineated in 1996 for the wells and springs based on long term aquifer tests and inferred fracture trace interpretations from the groundwater appropriation permits together with topographic features and drainage divides.

and annexation with subsequent connection to the sewer system may be more feasible for most areas listed to be in need. However, timely procurement of additional treatment capacity is required to serve not only these areas of development, but also the needs of planned development within the basin.

Monocacy Collection System

The Monocacy collection system is a County owned system which transports wastewater ~~through a portion of the City's sewage collection system to the City's Gas House Pike WWTP to the Monocacy SPS~~, where it is then pumped to the Lower Monocacy Interceptor which conveys flows to the County's Ballenger-McKinney WWTP for treatment. Operation of the collection system started in 1968 and has grown throughout the years to include the Town of Walkersville, Discovery PUD, Spring Garden Estates, and Dublin Estates, and recently annexed portions of the City of Frederick. The Tuscarora Interceptor collects the area west of the Monocacy River including Clover Hill, Waterside and the City subdivisions of Tuscarora Knolls, Worman's Mill, Clover Ridge, North Crossing, Canon Bluff, Kellerton, and Dearbought.

Existing Facilities

The Monocacy collection system utilizes eight pumping stations to transfer flows to the Lower Monocacy Interceptor just below the Frederick City Gas House Pike WWTP system: Ceresville, Crum Road, Dearbought, Discovery, MD-194, Monocacy, College Run, and Bloomfields. The largest of these is the 10.412.0 MGD (peak) Ceresville Monocacy pumping station, which handles ~~the majority~~all of the flow sent from this collection system to ~~Frederick City's Gas House Pike WWTP~~Ballenger-McKinney WWTP. ~~From there, the City diverts a metered portion of County sewage to the Ballenger-McKinney WWTP per the 1990 City/County Agreement as amended. However, the County is currently constructing a pump station, due for completion in January 2020, which will divert County wastewater flows around the City system. Its related force main has been completed.~~ The other large pumping station is located on College Run, which handles the northeast portion of Walkersville.

Other pumping stations on the Walkersville Interceptor are the Discovery and MD-194 stations. The Tuscarora and Walkersville Interceptors are 10-inch diameter clay pipe to 36-inch diameter RCP.

Planned Improvements

Growth downstream of the Ceresville pumping station is dominated by the Dearbought and Market Square developments and the Riverside industrial/office development, in the city limits. Flows from these projects are pumped intoconveyed to the Monocacy Interceptor SPS.

Table 4-5: County Pumping Stations

Service Area	Sewage Pump Station	No. of Pumps	Capacity Of Each Pump (GPD) ¹	Force Main Size (in.)	Average Day Pumping (GPD)
Ballenger	Buckingham Hills	2	468,000	6	66,300
Ballenger	Decatur Dr. [Greenhill Manor]	2	158,400	4	22,500
Ballenger	Doubs Rd.	2	792,000	8	63,650
Ballenger	Adamstown/ New Design Rd.	2	1,008,000	6 & 8	116,000
Ballenger	Stuart Mechanic	2	403,200	6	23,800
<u>Ballenger</u>	<u>Quantum Frederick 1 MGD</u>	<u>2</u>	<u>1,008,000</u>	<u>10</u>	<u>116,000²</u>
Jefferson	Briercrest	2	144,000	4	4,000
Jefferson	Shelburn Ct./Cambridge Farms	2	198,720	4	24,000
Jefferson	Milford Ct./Copperfield	2	34,560	2	1,750
Jefferson	Rt. 340/Ruritan Club	2	273,600	6	11,400
Linganore	Ben's Branch	2	2,550,240	16	300,000
Linganore	Boyers Mill Rd.	2	4,197,600	16	550,000
Linganore	Holly Hills	2	144,000	4	12,000
Linganore	Royal Oaks (New Market II)	2	285,120	4	71,200
Linganore	Quaker Way [Royal Oaks II]	2	119,520	4	17,400
Linganore	Rt. 144	2	396,000	6	71,100
Linganore	Summerfield	2	440,640	6	29,600
Linganore	Talbot Drive (New Market I)	2	201,600	4	26,000
Linganore	Westwinds Pool	2	54,720	2	912
Linganore	Westwinds	2	115,200	4	19,200
<u>Linganore</u>	<u>Westridge</u>	<u>2</u>	<u>500,000</u>	<u>8</u>	<u>0 (homes are under construction)</u>
Monocacy	Ceresville	3	10,400,000 (2 pumps)	16 (2)	2,185,600
Linganore	Tallyn Ridge	2	604,800	6	17,650
Libertytown	Libertytown	2	720,000	10	52,500
Libertytown	Liberty Village	2	50,400	2	5,500
Middletown	Limestone Lane (Fountaindale)	2	129,600	4	9,800
Mill Bottom	Manor Terrace	2	255,000	6	15,400
Mill Bottom	Turf Ct.	2	37,440	2	2,400
<u>Monocacy</u>	<u>Bloomfields</u>	<u>2</u>	<u>1,000,000</u>	<u>8</u>	<u>0 (not yet operational)</u>
Monocacy	Crum Rd.	2	144,000	4	6,000
Monocacy	Dearbought Ct.	2	792,000	8	116,500
Monocacy	Discovery	2	720,000	6	78,000
Monocacy	MD 194	2	554,400	6	96,400
Urbana	Urbana North Regional	2	1,533,600	12	39,000

Frederick County estimates a January 1, 2024, population of 25,876 for Ballenger Creek Census Designated Place (CDP). The Ballenger Creek CDP includes the small residential areas of Frederick Southeast (see below). With buildout of approved pipeline dwellings and the anticipated 10,000 dwellings allocated in the SFCP, Ballenger Creek and Frederick Southeast have a combined build-out projected population of approximately 52,876.

Frederick Southeast

This community growth area includes lands bounded by I-270, I-70, and the Monocacy River. The primary development area is referred to as the MD-85/355 corridor, which includes the area bounded by I-270, the Lafarge quarry, and I-70. This corridor includes approximately 5.2 million square feet of existing building area comprised of commercial/retail, office/industrial, motels, and auto related uses. The MD-85/355 corridor is also targeted as a primary redevelopment area. Frederick County hopes to incrementally redevelop the area between I-270 and MD-355 into a more urban mixed-use environment with up to 10,000 new residential dwellings along with new and redeveloped commercial and employment uses. It is anticipated 6,000 of these dwellings will be located in the Frederick Southeast growth area. The South Frederick Corridors Plan is anticipated to be adopted in 2024. Development and adoption of implementation tools such as a form-based code are expected at the end of 2024.

Urbana/I-270 Employment Corridor

The Urbana community growth area includes the Villages of Urbana/Urbana Highlands PUD, the Urbana Town Center MXD, the Urbana Office/Research Center MXD and the I-270 Employment Corridor. In 2017 proposed employment uses in the Urbana Town Center MXD and the Urbana Office/Research Center MXD were replaced with residential uses. Frederick County estimates a January 1, 2024, population of 15,458. As of December 2023, there were 255 approved residential units in the pipeline. There is no vacant residentially-zoned land. Almost 76 acres of MXD (mixed-use development) remain to be built. None of these MXD projects include residential uses at this time. An additional approximately 580 acres of land is unbuilt but zoned for commercial or industrial use (Limited Industrial, General Commercial Village Center, Office/Research/Industrial). However, some of this land is undevelopable due to floodplains or public water/sewer lines are not nearby. A sewage pumping station would also be required in this area. It is identified on the Sewage Plan Map as the Urbana South Sewage Pump Station, to be located in the general vicinity of the south side of Bennett Creek and east of I-270. At this time, the pump station would be a developer-initiated project. Frederick County anticipates conducting a small area plan for the Urbana and I-270 growth corridor in 2025/2026 to develop an updated vision for the Urban Growth Area.

Adamstown/Eastalco

Adamstown was originally planned for independent future service WWTPs. One industry (Trans Tech) in Adamstown currently has a multi-use WWTP which discharges to Tuscarora Creek South. Trans Tech will be shifting from its multi-use system to the community system once the County constructs a new sewer line through the older part of Adamstown. The existing subdivisions, Green Hill Manor and Adamstown Commons as well as the proposed Carroll Manor PUD, are pumped to the Ballenger-McKinney WWTP. The older part of the community of Adamstown is planned to be served at that WWTP in the future. Frederick County estimates the January 1, 2024, population at 2,348. As of December 2023, Adamstown had 39 pipeline dwellings (Carroll Manor PUD) which could result in an additional 106 residents. There is no additional undeveloped residentially zoned land in Adamstown. However, there is approximately 5 acres of Village Center (VC) zoned land which allows for mixed residential and commercial uses. Plan build-out of the pipeline dwellings and VC-zoned land would result in 80 Equivalent Dwelling Units (EDUs) of needed sewer capacity.

North of the Adamstown growth area is the Eastalco growth area, the former site of the Eastalco aluminum plant. This area is currently proposed for data center campus development. As part of the data center development, a 1 MGD interim sewage pumping station (SPS) ~~is under construction~~was constructed. This interim SPS will ultimately be replaced by a 5 MGD SPS which is still to be designed. ~~Some construction activities were underway in 2023 but construction was paused for the developer to work with MDE on approval of an environmental management plan.~~

Buckeystown

The Buckeystown community is mostly served by individual septic systems. Several of these systems are located in the 100-year floodplain. However, the Buckingham Hills subdivision, Buckingham's Choice retirement/assisted living facility, and Saint John's Catholic Prep school are connected to the public sewer system and served by Ballenger-McKinney. As of December 2023, there were no residential units in the pipeline. Frederick County estimates the January 1, 2024, population at 1,072. There are approximately 71 acres of vacant land with residential zoning or a residential designation on the Comprehensive Plan Map; and just under 1 acre is zoned Village Center which allows for a mix of residential and commercial uses. At build-out, there is a potential for approximately 202 dwellings and 546 additional residents.

Existing Facilities

The existing Ballenger-McKinney WWTP is a 15.0 MGD ENR treatment facility. Although a majority of flow enters the plant by gravity, the sewage collection system tributary to the Ballenger-McKinney WWTP includes 7 sewage pump stations. The main interceptors for the collection system were installed in 1971 and are 10 inches to 36 inches RCP.

Existing & Future Demand

Assuming a 50% weighted capacity adjustment factor for all commercial/industrial accounts, the current demand is approximately 36% (2.643 MGD) Commercial/Industrial and 64% (4.697 MGD) Residential. The average per capita flow per day (gpcd), when the total flow is divided by the population, is 78 gpd.

Lake Linganore/Spring Ridge/Bartonsville

This service area is comprised of three separate community growth areas as designated in the County Comprehensive Plan. The Spring Ridge/Bartonsville growth area includes the Spring Ridge PUD and the Bartonsville area south of MD-144. This growth area also includes some surrounding low density residential areas. The Linganore growth area includes the Eaglehead/Linganore PUD, the Greenview PUD and other low-density areas along Old National Pike. The third growth area is Holly Hills, which includes the golf course and surrounding residential developments between Ijamsville Road and Mussetter Road.

Existing Facilities

The Spring Ridge WWTP and the Lake Linganore WWTP have been decommissioned and the flow diverted to the Ballenger-McKinney WWTP. The collection system utilizes ~~five-six~~ pumping stations. The Boyers Mill Road pumping station, upgraded in 2009, serves the Pinehurst, Nightingale, Westwinds and Lake Anita Louise parts of the Linganore PUD. The Summerfield pumping station, built in 1990, serves the southern portion of the Summerfield section. Three pumping stations serve Westwinds and a future pool. The Westridge pumping station was constructed in 2025 and serves the Westridge part of Linganore PUD. The replacement/expansion of Bens Branch Sewage Pumping Station was completed in 2009. Bens Branch also receives flow from the Libertytown service area. The two remaining on-site pump stations were built in 1991 and 1992.

treatment plant, which is located on the east side of US-15. Replacement of the Creamery Road pump station pump station is almost complete as of August 2025. A second sewage pumping station was constructed in 2022 as part of a new gas station, also on the east side of US-15.

Existing and Future Demand

The Town's current population is 2,921 (MDP, 2023) and projects a 2050 population of 5,081 with a total of 2,000 households. This would equate to an increase in sewer demand of 75,000 gpd. Based on current figures, in 2030 the current system would have an excess capacity of 192,000 gpd.

Proposed Improvements

The existing treatment plant was brought on-line in July 2015. This plant did not increase capacity but will allow the Town to meet the annual average effluent nutrient goals of 3.0 mg/L of total nitrogen (TN) and 0.30 mg/L of total phosphorus (TP) as provided for in the Chesapeake Bay Restoration Act and ENR strategy. The nutrient load limits per year (unless otherwise noted), which are based on weekly and monthly averages, are:

- BOD5 May through September: 11,475 lbs.75 pounds per day; remainder of year: 39,856 lbs.188 pounds per day.
- TSS, 68,525 lbs.188 pounds per day.
- Total Phosphorus, 685 lbs.
- Total Nitrogen 9,137 lbs.
- Continue a program to identify sources of I/I and to implement improvements to reduce the associated flows.

~~The Town is working on an upgrade to the Creamery Road pump station. The pump station is anticipated to be constructed and online by January 2025.~~

Mount St. Mary's University

Mount St. Mary's University is served by a private wastewater treatment plant located northeast of the junction of US 15 and College Lane and consisting of 2 trains of MBR reactors. The plant was constructed in 2015 with a design capacity of 160,000 gpd. Effluent from the plant is de-chlorinated prior to being discharged into St. Mary's Run, which flows into Toms Creek. Sludge is either applied on land or hauled for further treatment and disposal to another facility. Most sewage flows by gravity to the WWTP but there are also 3 lift stations to aid in getting the wastewater to the WWTP. The treatment plant receives an average daily flow of 60,000 gpd during the academic year. The adjacent Mountain Manor rehabilitation facility was granted a waiver by MDE to connect to the university system in 2008 due to their failing septic system. The Mountain Manor flow is forced to the WWTP by one of the 3 lift stations previously mentioned.

MDE considers the Mount St. Mary's University system as a community system because it serves more than one lot. The County recognizes it as a "legacy" community system but maps it as a Multi-Use system to reflect the private ownership and operation of the system.

Town of Middletown

Middletown is located in the Middletown Valley. The municipality centers on an established commercial district along US 40A, a full K-12 complement of schools, and a regional park surrounded by low-density