# Carroll County Water & Sewer Master Plan



# Fall 2024 Supplement

Approved by MDE September 22, 2023

2023 Triennial Update

#### RESOLUTION NO. 1236 -2025

(2024 Fall Amendment Cycle to the 2023 Carroll County Water and Sewer Master Plan)

WHEREAS, the County Commissioners of Carroll County are required by Title 9, Subtitle 5 of the <u>Environment</u> Article of the Annotated Code of Maryland to periodically review and revise the Carroll County Water and Sewer Master Plan; and

WHEREAS, staff from various agencies including the County, municipalities, and state coordinated to develop the proposed amendments to the Carroll County Water and Sewer Master Plan; and

WHEREAS, on October 15, 2024, the Town of Manchester Planning and Zoning Commission certified the proposed amendments, as they pertain to Manchester, are consistent with the 2018 Manchester Comprehensive Plan; and

WHEREAS, on October 23, 2024, the Town of Hampstead Planning and Zoning Commission certified the proposed amendments, as they pertain to Hampstead, are consistent with the 2010 Hampstead Community Comprehensive Plan, amended in 2023; and

WHEREAS, on November 19, 2024, the Carroll County Planning and Zoning Commission certified the proposed amendments as consistent with the 2014 County Master Plan, Amended 2019 and the 2018 Freedom Community Comprehensive Plan: and

WHEREAS, the County Commissioners of Carroll County conducted a duly advertised Public Hearing regarding the 2024 Fall Amendment Cycle on January 30, 2025.

NOW THEREFORE, BE IT RESOLVED that the County Commissioners of Carroll County adopt the following 2024 Fall Amendments to the 2023 Carroll County Water and Sewer Master Plan, this 30<sup>th</sup> day of January 2025, as follows:

#### Fall 2024 Water Amendment:

#### Freedom Arca:

 Move four single-family dwelling units on property with SDAT No. 0705-020026, 0705-026512, 0705-026504, and 0705-026490 from Existing Water Service (W-1) to Long-Range Future Water Service (W-6) and subtracting 1,000 GPD of Residential Demand from Priority and Future, in Table 15.

#### Town of Manchester:

- Move five single-family dwelling units on property with SDAT No. 0706-037666 from Long-Range Future (W-6) to Existing (W-1) and add 1,250 GPD of Residential Demand to Future and Priority, in Table 15.
- Move property with SDAT No. 0706-033938, 0706-039669, and 0706-041051 from Priority (W-3) to Existing (W-1). Note: no demand changes are necessary because according to the Town of Manchester, these properties have been connected to Public

Water for at least ten years and therefore this amendment is not proposed to affect water flows since this water has been accounted for in the 2023 Triennial Update.

- Depicting the 8" Existing Line that connects the Existing Storage Tank (near Manchester Baptist Church) to the 8" Existing Line.
- Removing the Future Water Storage Tank on the map near Manchester Baptist Church Road.
- Depicting the 6" Existing Line along Oak Street ending at the perpendicular 6" Existing Line.
- Designate the two Priority Wells as two Existing Wells, south of Manchester Valley High School and north of Maple Grove Road.
- Depict the 1.5" Existing Line to connect the Existing Well to the Existing Pumping Station south of Manchester Valley High School and north of Maple Grove Road.
- Depict the Existing Line between the Existing Pumping Station and the Existing Well located to the northwest of the Washington Way and Southwestern Avenue Intersection.
- Depict the connection of the Existing Pumping Station located west of Susanann Drive to the Existing Well located east of the Southwestern Avenue and Coleman Court intersection, with a 4" Existing Line.
- 10. Removing the Future Storage Tank in the map legend under "Water Facilities".

#### Fall 2024 Sewer Amendment

#### Town of Hampstead:

 Move Property with SDAT No. 0708-033196 and 0708-040923 from Future (S-5) to Priority (S-3) and add 5.554 GPD of Other Demand, to Priority, in Table 32.

#### Town of Manchester:

- Move 0.438 acres of Property with SDAT No. 0706-034667 from Existing (S-1) to Future (S-5), and subtract 307 GPD of Other Demand from Priority, in Table 32.
- Move one single-family dwelling unit with SDAT No. 0706-039758 from No Planned Service to Existing (S-1) and add <u>250 GPD</u> of *Residential Demand*, to Future and Priority, in Table 32, for part of Property with SDAT No. 0706-039758. The other part of the Property is already located in Existing (S-1).
- Move nine single-family dwelling units with SDAT No. 0706-035302, 0706-048129, 0706-048110, 0706-048684, 0706-048536, 0706-041612, 0706-433964, 0706-433965, and 0706-048293 from No Planned Service to Long-Range (S-6).
- 4. Move Property with SDAT No. 0706-039669 and 0706-041051 from Priority (S-3) to Existing (S-1). Note: according to the Town of Manchester, these properties have been connected to Public Sewer for at least ten years and therefore this amendment is not proposed to affect sewer flows since this water has been accounted for in the 2023 Triennial Update.
- Move one single-family dwelling unit with SDAT No. 0706-054609 from Existing (S-1) to Future (S-5) and subtract 250 GPD of Residential Demand from Priority, in Table 32.

2024 Fall Amendment Cycle to the Carroll County Water and Sewer Master Plan -- Resolution

- Move one single-family dwelling unit with SDAT No. 0706-036201 from Future (S-5) to Existing (S-1) and add 250 GPD of Residential Demand to Priority, in Table 32.
- Move eight single-family dwelling units with SDAT No. 0706-036139, 0706-037933, 0706-034535, 0706-034233, 0706-003036, 0706-038123, 0706-038980, and 0706-035817 from Existing (S-1) to Priority (S-3). No demand changes are necessary since these undeveloped lots are moving to Priority.
- Move 11 single-family dwelling units with SDAT No. 0706-033962, 0706-036856, 0706-038549, 0706-035728, 0706-036791, 0706-035957, 0706-038352, 0706-036120, 0706-035426, 0706-035418, and 0706-035396 from Existing (S-1) to Future (S-5) and subtract 2,750 GPD of Residential Demand, from Priority, in Table 32.
- Move 17 single-family detached dwelling units with SDAT No. 0706-034977. 0706-035868, 0706-035272, 0706-038964. 0706-038921, 0706-033970, 0706-035922. 0706-036171, 0706-038859, 0706-035647, 0706-033857, 0706-037461, 0706-035787, 0706-038425, 0706-033954, 0706-035582, and 0706-038808 from Future (S-5) to Priority (S-3) and add 4,250 GPD of Residential Demand to Priority, in Table 32.
- Move one single-family detached dwelling unit with SDAT No. 0706-047556 from Existing (S-1) to Priority (S-3). No demand changes are necessary since this undeveloped lot is moving to Priority.
- 11. Depict the Existing Line, in two areas along Arizona Way.
- 12. Depict the Existing Line along the full length of Oak Street.
- Depict the Existing Force Mains near the Existing Treatment Plant to align with what is currently existing, per the map.
- 14. Removing the Future Pumping Station near Valley View Court.
- 15. Removing a Priority Line at Valley View Court.
- 16. Removing the Existing Line to the south of Property with SDAT No. 0706-038808.

BE IT FURTHER RESOLVED that this Resolution shall become effective if/when the 2024 Fall Amendments are Approved by the Maryland Department of the Environment in accordance with the Annotated Code of Maryland, <u>Environment</u> Article, Section 9-507.

ADOPTED this 30th day of January 2025.

THE COUNTY COMMISSIONERS OF CARROLL COUNTY, MARYLAND, a body corporate and politic of the

State of Maryland

ATTEST:

County Clerk

2024 Fall Amendment Cycle to the Carroll County Water and Sewer Master Plan-- Resolution

(SEAL) Vigliotti, Vice President ph (SEAL) Edward C. Rothstein, Commissioner

020 (SEAL) Thomas S. Gordon, III, Commissioner

(SEAL) Michael R. Guerin, Commissioner

Approved for Legal Sufficiency:

Timothy C. Burke, County Attorney

Janice R. Kirkner, Chair Michael Kane, Vice Chair Peter Lester Matthew Hoff Steven Smith Ralph Robertson Richard Soisson, Alternate Tom Gordon, III, Ex-officio Daphne Daly, Secretary



Planning & Zoning Commission Carroll County Government 225 North Center Street Westminster, Maryland 21157 410-386-5145 1-888-302-8978 MD Relay service 7-1-1/800-735-2258

#### 2023 Carroll County Water and Sewer Master Plan Fall 2024 Amendment Cycle

#### November 19, 2024

The Carroll County Planning and Zoning Commission hereby Certifies the following recommended amendments to the 2023 Carroll County Water and Sewer Master Plan, as they pertain to the County, are consistent with the 2014 Carroll County Master Plan, as amended in 2019, and the 2018 Freedom Community Comprehensive Plan. Furthermore, this Commission forwards all amendments, and Planning Commission Certifications for the Town of Hampstead 2010 Community Comprehensive Plan, as amended in 2023 and the 2018 Manchester Comprehensive Plan, to the Board of County Commissioners for final review and adoption.

#### Fall 2024 Water Amendment:

#### Freedom Area:

 Move four single-family dwelling units on property with SDAT No. 0705-020026, 0705-026512, 0705-026504, and 0705-026490 from Existing Water Service (W-1) to Long-Range Future Water Service (W-6) and subtracting 1,000 GPD of Residential Demand from Priority and Future, in Table 15.

#### **Town of Manchester:**

- Move five single-family dwelling units on property with SDAT No. 0706-037666 from Long-Range Future (W-6) to Existing (W-1) and add 1,250 GPD of Residential Demand to Future and Priority, in Table 15.
- Move property with SDAT No. 0706-033938, 0706-039669, and 0706-041051 from Priority (W-3) to Existing (W-1). Note: no demand changes are necessary because according to the Town of Manchester, these properties have been connected to Public Water for at least ten years and therefore this amendment is not proposed to affect water flows since this water has been accounted for in the 2023 Triennial Update.
- Depicting the 8" Existing Line that connects the Existing Storage Tank (near Manchester Baptist Church) to the 8" Existing Line.
- Removing the Future Water Storage Tank on the map near Manchester Baptist Church Road.
- Depicting the 6" Existing Line along Oak Street ending at the perpendicular 6" Existing Line.
- Designate the two Priority Wells as two Existing Wells, south of Manchester Valley High School and north of Maple Grove Road.

- Depict the 1.5" Existing Line to connect the Existing Well to the Existing Pumping Station south
  of Manchester Valley High School and north of Maple Grove Road.
- Depict the Existing Line between the Existing Pumping Station and the Existing Well located to the northwest of the Washington Way and Southwestern Avenue Intersection.
- Depict the connection of the Existing Pumping Station located west of Susanann Drive to the Existing Well located east of the Southwestern Avenue and Coleman Court intersection, with a 4" Existing Line.
- Removing the Future Storage Tank in the map legend under "Water Facilities".

#### Fall 2024 Sewer Amendment

#### Town of Hampstead:

Move Property with SDAT No. 0708-033196 and 070-8040923 from Future (S-5) to Priority (S-3) and add 5,554 GPD of Other Demand, to Priority, in Table 32.

#### **Town of Manchester:**

- Move 0.438 acres of Property with SDAT No. 0706-034667 from Existing (S-1) to Future (S-5), and subtract 307 GPD of Other Demand from Priority, in Table 32.
- Move one single-family dwelling unit with SDAT No. 0706-039758 from No Planned Service to Existing (S-1) and add <u>250 GPD</u> of *Residential Demand*, to Future and Priority, in Table 32, for part of Property with SDAT No. 0706-039758. The other part of the Property is already located in Existing (S-1).
- Move nine single-family dwelling units with SDAT No. 0706-035302, 0706-048129, 0706-048110, 0706-048684, 0706-048536, 0706-041612, 0706-433964, 0706-433965, and 0706-048293 from No Planned Service to Long-Range (S-6).
- Move Property with SDAT No. 0706-039669 and 0706-041051 from Priority (S-3) to Existing (S-1). Note: according to the Town of Manchester, these properties have been connected to Public Sewer for at least ten years and therefore this amendment is not proposed to affect sewer flows since this water has been accounted for in the 2023 Triennial Update.
- Move one single-family dwelling unit with SDAT No. 0706-054609 from Existing (S-1) to Future (S-5) and subtract 250 GPD of Residential Demand from Priority, in Table 32.
- Move one single-family dwelling unit with SDAT No. 0706-036201 from Future (S-5) to Existing (S-1) and add 250 GPD of Residential Demand to Priority, in Table 32.
- Move eight single-family dwelling units with SDAT No. 0706-036139, 0706-037933, 0706-034535, 0706-034233, 0706-003036, 0706-038123, 0706-038980, and 0706-035817 from Existing (S-1) to Priority (S-3). No demand changes are necessary since these undeveloped lots are moving to Priority.
- Move 11 single-family dwelling units with SDAT No. 0706-033962, 0706-036856, 0706-038549, 0706-035728, 0706-036791, 0706-035957, 0706-038352, 0706-036120, 0706-035426, 0706-035418, and 0706-035396 from Existing (S-1) to Future (S-5) and subtract 2,750 GPD of Residential Demand, from Priority, in Table 32.

- Move 17 single-family detached dwelling units with SDAT No. 0706-034977, 0706-035868, 0706-035272, 0706-038964, 0706-038921, 0706-033970, 0706-035922, 0706-036171, 0706-038859, 0706-035647, 0706-033857, 0706-037461, 0706-035787, 0706-038425, 0706-033954, 0706-035582, and 0706-038808 from Future (S-5) to Priority (S-3) and add 4,250 GPD of Residential Demand to Priority, in Table 32.
- Move one single-family detached dwelling unit with SDAT No. 0706-047556 from Existing (S-1) to Priority (S-3). No demand changes are necessary since this undeveloped lot is moving to Priority.
- · Depict the Existing Line, in two areas along Arizona Way.
- · Depict the Existing Line along the full length of Oak Street.
- Depict the Existing Force Mains near the Existing Treatment Plant to align with what is currently
  existing, per the map.
- · Removing the Future Pumping Station near Valley View Court.
- Removing a Priority Line at Valley View Court.
- Removing the Existing Line to the south of Property with SDAT No. 0706-038808.

Kulsner

Janice R. Kirkner, Chair Carroll County Planning and Zoning Commission

Daphne Daly, AICP, Secretary Carroll County Planning and Zoning Commission

c. Andrew Gray, AICP, Comprehensive Planner

Council Mombers: Diane Barrett Deborah Painter Wayne H. Thomas David Unglesbee Benjamin Zolman

Christopher M. Nevin Mayer



Jim Roark Town Manager 1034 S. Carroll Street Hampstead, MD 21074 410-239-7408 Tcl 410-239-6143 Fax Hampstead@carr.org www.hampsteadmd.gov

#### 2023 CARROLL COUNTY WATER AND SEWER MASTER PLAN

#### 2024 FALL AMENDMENT

October 23, 2024

To Whom It May Concern:

The Hampstead Planning and Zoning Commission hereby certifies the 2024 Fall Amendment to the 2023 Carroll County Water and Sewer Master Plan, as it pertains to the Town of Hampstead, is consistent with the 2010 Hampstead Community Comprehensive Plan, amended in 2023, as exemplified in the associated submission information.

Sharon Callahan Chair of the Hampstead Planning and Zoning Commission



TOWN OF MANCHESTER (410) 239-3200 FAX (410) 239-6430 MELINDA SMITH, MAYOR

#### 2023 CARROLL COUNTY WATER AND SEWER MASTER PLAN

#### 2024 FALL AMENDMENT

October 15, 2024

The Manchester Planning and Zoning Commission hereby certifies the 2024 Fall Amendment to the 2023 Carroll County Water and Sewer Master Plan, as it pertains to the Town of Manchester, is consistent with the 2018 Manchester Comprehensive Plan, as exemplified in the associated submission information.

1 2

Henry Keskinen, Chairperson Manchester Planning and Zoning Commission

97 THOLOW RD 2 LINTONRD RO AREN DR



Map 12

Triennial Update

Carroll County Water & Sewer Master Plan

#### Manchester Water Service Area

#### **Current Conditions**

The Town of Manchester owns and operates the public water system which limits service to its corporate boundary. The existing and planned WSA serves 1,792 EDUs, covers approximately 1,533 acres and is in the northeast portion of the County along MD 30. See Map 14: Manchester WSA. 2021 average daily use was 0.256 MGD. Average daily appropriations are 0.581 MGD.

The system is currently supplied by 19 wells, Hillside Spring, and 12 pumping stations. Hillside Spring is a spring within the larger Walnut Street Area Spring system. Water is treated at each well pumping station. Treatment consists of chlorination at all 12 pumping stations. Soda ash is also added at all 12 pumping stations for pH control. The High School plant (TP15) also incorporates anion exchange for removal of nitrate.

Water storage for the Town of Manchester is comprised of three elevated water storage tanks. A 500,000-gallon storage tank is located on York Street on the northeast side of Town; a 100,000-gallon storage tank located on Park Avenue in the western part of Town; and a 250,000-gallon storage tank located at the Manchester Baptist Church. The current storage system is a "floating" system which means three tanks are connected and act as overflow for the distribution system. When demand is low, additional water in the system goes to the tanks. When demand is high, water is relieved from the tanks by gravity. See Table 8A for Manchester WSA appropriations; Table 8B: Manchester WSA for average daily use; and Table 8C for Manchester WSA storage tanks.

Map 14



#### Triennial Update

Carroll County Water & Sewer Master Plan

		Alloc	ation	_
6-Digit Watershed	Permit No.	Average Daily Demand on Yearly Basis (gpd)	Daily Demand for Month of Maximum Use (gpd)	Wells/Springs Included in the Permit
Middle Potomac	c CL1966G112(04)	134,000	199,000	<ul> <li>Bachman Road Well (Well #4)</li> <li>Crossroads Well #1 (Well #8)</li> <li>Crossroads Well #2 (Well #9)</li> <li>Hallie Hill Well (Well #11)</li> </ul>
Patapsco	CL1966G212(05) CL1995G046(03) CL2002G005(04)	27,700 69,700 25,600	50,600 116,400 38,000	<ul> <li>Patricia Court Well (Well #7)</li> <li>Manchester Farms Well D</li> <li>Manchester Farms Well B (Well #10)</li> <li>Park Ridge Well (Well #13a)</li> <li>Park Ridge B Well (Well #13b)</li> </ul>
Gunpowder	CL1966G012(12)	324,000	486,000	<ul> <li>Walnut Street Spring Area</li> <li>MV1 Well #6 Route 30 Lippy</li> <li>MV2 Manchester V RW</li> <li>MV3 Manchester V TW4Alt</li> <li>Holland Drive Well (Well #2)</li> <li>Black Farm Well #1 (Hallie Hill L Well #14L)</li> <li>Black Farm Well #2 (Hallie Hill N Well #14N)</li> <li>Ferrier Road Wells (A, B, C) (Well #12)</li> <li>Walnut Street Well (Well #1)</li> </ul>
Totals		581,000	890,000	

#### Table 8A: Manchester WSA Appropriations

Since 2000, 9 new wells have been brought online. Most recently (2009), the Chauncy Hill Well, also known as Park Ridge B Well #13b, was connected. Hallie Hill Wells "L" and "N", also known as Black Farms Well #1 and #2, were connected in 2007.

A hydraulic model of the Town's entire water system was originally developed along with a 15-year projection for water storage needs. The hydraulic model is an ongoing process, as new water supplies or additional developments are brought onto the system the model is updated. If the update is not a Town project, the cost of the update is paid by the developer.

Water Sources	Max. Safe Yield (MGD)	Avg. Daily Use (MGD)	Max. Peak Flow (MGD)
Bachman Road (Dell) Well	0.069	0.056	0.137
Park Ridge Well 13B	0.020	0.008	0.044
Crossroads #1 Well	0.038	0.030	0.076
Crossroads #2 Well	0.044	0.012	0.087
Holland Drive Well	0.041	0.016	0.083
Manchester Farms Well B	0.056	0.039	0.113
Manchester Farms Well D	0.010	0.006	0.008
Manchester Valley Wells (3	0.100	0.042	0.075
Wells)			
Patricia Court Well	0.014	0.007	0.029
Hallie Hill Well	0.037	0.021	0.074
Hallie Hill "L" Well 14a	0.024	0.012	0.057
Hallie Hill "N" Well 14b	0.039	0.023	0.068
Ferrier Road Well A	0.020	0.011	0.052
Ferrier Road Well B	0.020	0.005	0.029
Ferrier Road Well C	0.019	0.016	0.038
Park Ridge Well 13A	0.029	0.007	0.055
Walnut Street Well	0.012	0.005	0.020
Total	0.592	0.316	1.045

#### Table 8B: Manchester WSA Average Daily Use

#### Table 8C: Manchester WSA Storage Tanks

Storage Tank	Storage Capacity (mg)
Manchester Baptist Church Water Tank	0.250
Park Avenue Water Tank	0.100
York Street Water Tank	0.500
Total	0.850

#### Allocation Procedure

Prior to approving a development, the proposed use shall be considered in light of the Town's current water supply capacity, as limited by the Town's water appropriations, pumping capability, peaking and drought factors. If the Town determines that adequate water capacity for the proposed use, a fee of \$15,000 per EDU will be accessed, payable with the application of each building permit.

In addition, Chapter 241, the water section of the Town Code requires that public facilities, including water, be adequate for Planning Commission approval at each stage of the approval process.

#### Needs Analysis

The Huppman Spring, which is part of the larger Walnut Street Area Spring system, has been out-of- service for approximately four years due to surface water influence. Manchester has identified potential municipal groundwater sources and completed rehabilitation of the Walnut Street Area Spring system to address susceptibility to surface water influence and restore water quality. The Town is studying the extent of the contamination problems. Once studies are complete, the Town will develop a strategy to remediate water quality, if needed. Currently, due to budget constraints, the study for the Walnut Street Spring remediation has not been completed. At this time, the Springs are offline due to contamination. The Town wants to keep the option of remediation available for the future should they need additional water resources.

The Town has had a long-standing goal of developing an accurate and complete map of its distribution system. Such a comprehensive inventory is needed to make the most efficient decisions in emergency situations such as a water main break or if an individual home's water valve will not shut off.

Given that policy changes related to groundwater or changes in projected demand may occur in the future, additional water sources may need to be planned. See Table 8D: Manchester WSA Inventory of Manchester WSA water problem areas.

Table 8D: Manchester WSA Water Problem Areas							
Location	Population	Nature of Problem	Status				
Manchester	5,440	Impact of Surface Water Treatment Rule under the Safe Drinking Water Act on Town's springs	Under study				
Sheetz Store		Petroleum and MTBE	Under Study				

#### 

#### Planned Projects and Recommendations

See Table 8E for Manchester WSA priority projects.

Table 8E: Manchester WSA Priority Projects							
	Planning			Added			
Project Name	Category	Description	Location	Capacity			
Computer Mapping	Priority (W-3) Immediate	Develop mapping of complete water distribution system	Entire Town	0 MGD			
Refurbish Walnut Street Springs	Priority (W-3) 5 Years	Refurbish springs to meet Surface Water Treatment Rule	North side of Town	.025 MGD			
Aging Infrastructure Replacement	Priority (W-3)	Replace aged infrastructure to reduce leaks	Entire Town	TBD*			
New Wells	Future (W-5) 10 Years	Develop and connect new wells	Walnut Street and Bachman Road	TBD*			
PFAS Mitigation	Priority (W-3)	Construct a treatment facility to treat 3 stations (Manchester Farms, Park Ridge, Patricia Court)	Manchester Farms	0 MGD			

\* As conversations progress this additional capacity will be determined

#### Long-Term Recommendations (10+ years)

- Map the water distribution system for tracking purposes and make decisions in instances of • drought in inadequate water supply.
- Maintain long-term options for non-groundwater water supply. •

### Projected Water Supply Demands and Projected Capacity

The following table summarizes projected water demand over the next ten years. It incorporates planned capacity improvements that respond to the demand projections.

	Table 15 <sup>2</sup> Projected Water Supply Demands and Planned Capacity																		
<u>Present</u> Year				<u>Future Planning</u> (7-10 Year)															
	<u>Re</u>	G P		Cap Millio Daily (	acity on Gal. (MGD)		<u>Res.</u>	G P		Capa Millio Daily (	acity n Gal. MGD)		Res.	G		Ca Million (N	pacity Gal. Dai IGD)	ily	
Service Area	<u>s.</u> Po p. Se r.	C D	Res. Dem.	Oth. Dem.	Tot. Dem	Ex. Cap.	Pop Ser.	C D	Res De m.	Oth. Dem	Tot. Dem.	Pl. Cap	Pop. Ser.	P C D	Res. Dem.	Oth. Dem.	Tot. Dem.	Pl. Cap.	
Freedom/Sykesville	22,893	85	1.938	0.102	2.040	4.427	29,080	86	2.487	0.541	3.028	4.427	31,159	82	2.547	0.541	3.088	7.000	
Hampstead <sup>3 12</sup>	5,991	44	0.266	0.071	0.337	0.630	7,337	52	0.386	0.302	0.688	0.709	7,682	54	0.417	0.323	0.740	0.884	ł
Manchester	5,408	42	0.225	0.031	0.256	0.581	6,790	51	0.348	0.053	0.401	0.606	6,798	51	0.349	0.053	0.402	0.606	
Mount Airy <sup>4</sup>	9,727	65	0.633	0.177	0.812	0.927	9,924	66	0.651	0.303	0.954	1.079	9,924	66	0.651	0.304	0.955	1.079	
New Windsor <sup>5</sup>	1,441	53	0.077	0.014	0.091	0.196	1,703	55	0.094	0.055	0.149	0.376	1,703	55	0.094	0.075	0.169	0.626	
Taneytown <sup>67</sup>	7,234	48	0.347	0.103	0.450	0.552	7,833	51	0.400	0.205	0.605	0.601	7,883	51	0.400	0.205	0.605	0.601	
Union Bridge	936	52	0.049	0.041	0.090	0.208	1,767	74	0.131	0.048	0.179	0.250	1,767	74	0.131	0.048	0.179	0.250	
Westminster 891011	29,308	91	2.66	0.396	3.056	4.231	32,846	92	3.017	0.758	3.775	5.231	33,073	92	3.040	0.811	3.851	5.231	

<sup>2</sup> See Appendix 3 Method for Projecting Water Supply and Sewer Demands.

<sup>3</sup> Florida Rock Property has a total allocation of 82,816 gpd. On the Water Map for Hampstead this property shows as Priority. The allocation is split 63,816 gpd in the Priority Water Service Area and 19,200 gpd in the Future Service Area.

<sup>4</sup> Mount Airy's Total Demand includes 119,640 gpd to account for drought conditions (which is 12% of total demand). The Priority calculations were provided by the Town of Mount Airy.

<sup>5</sup> New Windsor's Priority and Future calculations are based on 165 gal per unit for residential demand.

<sup>6</sup> Mount Airy, Taneytown and Union Bridge do not have any properties in the Future Planning Category.

<sup>7</sup> The Priority Calculations are based on the development projects in the approval process and were provided to the County by the City.

<sup>8</sup> Westminster's Priority and Future residential calculations are based on 235 gal per unit and 55 gallons/1,000 s.f. other demand.

<sup>9</sup> Westminster does not have any residential properties in the Future Planning Category.

<sup>10</sup> LEF Stone Chapel LLC property has a total demand of 33,420 gpd. The water map for Westminster has the Industrial zoned portion in Existing/Final Planning. The demand is split 10,500 gpd in Existing, 13,752 gpd in Priority and 9,168 gpd in Future.

11 Westminster Water Reuse Facility Priority (0-6 Yrs), 1.00 MGD.

12 Priority water demand is based on a 1,000 gpd average of sewer use, should a change of use occur which requires a greater demand, re-evaluation of the Towns capacity is needed to ensure the Town is able to supply this increased demand.

#### Sewer Facilities

Map 22



# Carroll County Water and Sewer Master Plan

Triennial Update

#### Manchester Sewer Service Area

#### **Current Conditions**

The Town of Manchester owns and operates its sewer system and limits service to the corporate boundary. The Manchester SSA area comprises about 1,301 acres located in the northeast corner of the county along MD 30 and serves 1,883 EDUs. Manchester WWTP capacity is 0.500 MGD. Average flow in 2023 was 0.263 MGD.

The existing sewer system became operational in 1969 and consists of a collection system, eleven pumping stations, and a sewage treatment plant located east of Beaver Street. A spray irrigation facility is also utilized in the waste treatment process and is located south of Manchester on Warehime Road. Sewage flow is primarily domestic, with a small amount of commercial waste.

The sewage treatment plant is a package secondary treatment facility utilizing contact stabilization with anaerobic digestion of sludge. The design capacity is 0.500 MGD, with a three-year average flow from 2021-2023 of approximately 0.264 MGD, excluding estimated I&I. Effluent from the treatment plant is pumped from the treatment plant via a 14-inch diameter force main to a 5.0 mg storage lagoon, and in turn, spray irrigated onto Town-owned irrigation fields. The Town of Manchester utilizes and harvests a crop of reed canary grass for nutrient uptake on the spray irrigation fields. The Town is allowed to spray irrigate March 1 through November 30. For the remaining 3 months, December 1 through February 28, the plant's effluent is discharged into George's Run, which is a tributary of Prettyboy Reservoir in Baltimore County. The Town is permitted to spray 0.5 mg of effluent per day. See Tables 19A-19D for Manchester SSA infrastructure.

Inventory of Existing Wastewater Treatment Plants, Interceptors, Sewage Pumping Stations, and Force Mains

Table 19A. Manchester SSA freatment Plant							
		WWTP Design	Flows				
	Points of	Capacity	Average/				
WWTP Treatment Type	Discharge	(MGD)	Peak	Method of Sludge Disposal			
WWTP activated sludge	Land application	0.500	0.269/	Stabilized sludge is dewatered			
contact stabilization with	via spray irrigation		0.498	onsite and is trucked to the			
land application via	/George's Run		mgd	Modern Landfill, York PA. by an			
spray irrigation	(winter)			independent hauler			

Table 104, Manahastar CCA Traatmant Diant

Discharge Permit Number: 18-DP-0642 NPDES Number: MD0022578

Map 23



#### Table 19B: Manchester SSA Interceptors

Interceptor	Diameter (inches)	Average Day Flow (MGD)	Design Flow (MGD)
Main Influent line to WWTP	16	0.269	2.000
Northern Line	8	0.117	1.800
Westminster Street	8	Not metered	0.288
Hallie Hills #1	8	Not metered	0.518
Hallie Hills #2	8	Not metered	0.500
Coachman Way	8	Not metered	0.288
Victory Street	6	Not metered	0.072
Southern Line	8	0.055	1.000
Crossroads Overlook #1	8	Not metered	0.700
Crossroads Overlook #2	8	Not metered	0.288
Total		0.441	7.454

#### Table 19C: Manchester SSA Pumping Stations

				Capacity of		Average Day
		Coordinate	# Of	Pump	Normal Pumping	Pumping
	Pumping Station	Location*	Pumps	(MGD)	Capacity (MGD)	(MGD)
	Manchester WWTP	N 725574.11 E 1346217.60	2	2.000	0.250	0.237
	Westminster Street	N 726009.53 E 1343736.75	2	0.144	Unknown (No Flow Meter)	0.030 (Est.)
	Hallie Hills Station #1	N 3940.525 W7653.793	2	0.259	n/a No Flow Meter	0.030 (Est.)
	Hallie Hills Station #2	N3940.790 W 7653.294	2	0.250	n/a No Flow Meter	0.014 (Est.)
	Maple Grove Road (South Station)	N 725250.08 E 1346561.88	2	0.500	0.038	0.038
	Michelle Road (North Station)	N 729472.59 E 1343058.31	4	0.450	0.056	0.056
	Park Ave. Estates Station	N 725229.83 E 1342521.64	2	0.144	Unknown (No Flow Meter)	0.100(Est.)
	Victory Street	N 727741.06 E 1347311.20	2	0.036	Unknown (No Flow Meter)	0.002 (Est.)
	Effluent P.S. to Lagoon	N 725270.33 E 1346551.75	2	2.100	0.356	0.356
	Manchester Farms	N 1343199.85 W 718901.51	4	0.430	n/a No Flow Meter	0.032 (Est.)
	Crossroads Station #1	N 1341755.22 W 726143.27	2	0.350	n/a No Flow Meter	0.045 (Est.)
	Crossroads Station #2	N 393976.50 W765398.70	2	0.144	n/a No Flow Meter	0.180 (Est.)
	Irrigation Pump Station (Spray Fields)	N 725857.64 E 1348779.45	3	1.600	0.522	0.498
-	Total		31	8.407	1.222	1.618

 $m ^{\star}$ Coordinate locations are Maryland State Plane 1983 Datum.

	Maximum Day Pumpage in	Diameter	Design Flow
Force Main	MGD (date)	(inches)	(MGD)
Westminster Street	Unknown (No Flow Meter)	4	0.300
Millie Way	Unknown (No Flow Meter)	4	0.030
Coachman Way	Unknown (No Flow Meter)	4	0.290
Christmas Tree Lane (Victory St.)	Unknown (No Flow Meter)	2	0.036
Lagoon	0.730 (01/01/21)	14	4.200
Sprayfields	0.707 (06/01/21)	10	1.600
Hanover Pike (North Station)	n/a	10	1.800
Hanover Pike (South Station)	.055 (08/04/21)	10	2.000
Westminster Street (from Crossroads Station #1)	No Flow Meter	4	0.350
Susanann Drive	No Flow Meter	6	0.860
Main St. to Long Lane (North Station)	0.119 (10/21/21)	10	2.000
Westminster Street (Westminster St. Station)	Unknown	4	0.144/pump
Hallie Ave. to Millie Way (Hallie Hill Station)	Unknown	6	0.091
Hallie Ave West to Hallie Ave.	Unknown	6	0.145
Coachman Way (Park Ave. Station)	Unknown	4	0.144/pump
Christmas Tree Lane (Victory St. Station)	Unknown	2	.3600
Eff. Line to Lagoon (Eff. Pump Station)	0.730	14	2.100
Eff. Line to Sprayfields (Sprayfield Station)	0.499-Based on Lagoon Level	2-10	4.800
Westminster Street (Crossroads Station #1)	Unknown	6	0.350/pump
Overlook Court (Crossroads Station #2)	Unknown	4	0.144/pump
Susanann Drive (Manchester Farms Station)	Unknown	6	0.430/pump
WWTP	0.497 (12/20/09)	8	2.000
Total	3.337		24.174

Table 19D: Manchester SSA FC
------------------------------

\*Provided Design Average Daily Flow for Design Flow.

#### Sludge Management

The Manchester Wastewater Treatment Plant generates approximately 1.6 million gallons of wet sludge per year. The stabilized sludge which is generated at the facility is dewatered via a belt-filter press. Dewatered sludge cake is then transported to the Modern Landfill for disposal. The average amount of dewatered sludge transported is 23 tons per month, or 454 tons per year. See Table 19E for Manchester SSA Sludge Management.

Table 19E: Manchester SSA Sludge Management									
Quantity	Quality	Method of Disposal/Use	Permit #s	Future Disposal Method	Problems				
Average of 23 tons of dewatered sludge per month	Digested liquid sludge, 12% solids, aerobic digestion	Dewatered sludge transported to Modern Landfill	S-02-06-4853L	Agricultural land application, composting	None				

#### Allocation Procedure

Allocations are made on a "first-come, first-served" basis following approval of a site plan or subdivision. Flows for residential development are calculated at 375 gallons per dwelling unit per day. Commercial and industrial flows are calculated by the applicant's engineers and reviewed by the Town.

In addition, Section 173 "Sewer" section of the Town Code requires that public facilities, including sewer, be adequate for the Planning Commission to approve a project at each stage of the development approval process.

#### Needs Analysis

No further expansion of the existing 0.500 mgd wastewater treatment plant capacity is contemplated or planned. The planned service area has been scaled to the remaining capacity of the existing facility, consistent with the Comprehensive Plan for Manchester and Environs, as amended. The Town's sewer system experiences inflow & infiltration (I&I), which results in additional flows of approximately 29,613 gpd to the wastewater treatment plant. To reduce I&I, the Town conducted an I&I study to determine levels of inflow and made system improvements to address the problem. This will make the most efficient use of the system and allow available capacity to be allocated to the planned service area. Periodic monitoring and correction of future problem areas will continue to be necessary.

In the southwestern end of Town, there are existing homes and areas planned for development, but sewer lines do not currently exist to serve them. Most notably, the existing homes on Charmil Drive are not served by public sewer. The sewer line that carries wastewater from Manchester Farms could, in the future, serve approximately 28 homes along the south side of Charmil Drive. However, service to the remaining homes in the Charmil Drive area would still require construction of additional sewer lines. See Table 19F: Manchester SSA sewage problem areas.

Table 19F: Manchester SSA Sewage Problem Areas										
Location	Population (Where Applicable)	Nature Of Problem	Status							
Charmil Drive	90	Groundwater contamination from failing septic systems in the area	Extend community sewer service to this area							

# Planned Projects and Recommendations

See Table 19G for Manchester SSA priority projects.

Table 19G: Manchester SSA Priority Projects									
	Planning			Capacity					
Project Name	Category	Description	Location	Added					
Infiltration/Inflow	Priority (S-3	Continue to locate and remedy	Various locations	.0 MGD*					
Improvements	5 years	areas experiencing I&I problems	throughout the Town						

Carroll County Water and Sewer Master Plan

120			Sewer Facilities					
Computer Mapping	Priority (S-3) Immediate	Develop computer mapping of complete wastewater collection system	Entire Town	0 MGD				
Subsurface Discharge	Priority (S-3) 5 years	Design and explore feasibility of sub surface discharge to utilize the spray fields year-round	Spray Irrigation Facility	0 MGD				
Wastewater Priority (S-3) In Treatment Plant 5 years Er Upgrades		Improvements to meet Enhanced Nutrient Removal goal	Existing WWTP	.0 MGD*				
*Those projects wi	ll be completed i	f grant funding becomes available						

\*These projects will be completed if grant funding becomes available

#### Long-Term Recommendations (10+ years)

• Explore options for providing public sewer service to existing developed areas in Town that currently are not served.

## Projected Sewer Supply Demands and Projected Capacity

The following table summarizes projected sewer demand over the next ten years. It incorporates planned capacity improvements that respond to the demand projections.

Table 32 <sup>3</sup> Projected Sewerage Demands and Planned Capacity*																		
<u>Service</u> <u>Area</u>		Present Year						Priority Planning (0-6 Year)					<u>Future Planning</u> (7-10 Year)					
	Res.       Pop.       Ser. <sup>1</sup>	G P		Capacity Million Gal. Daily (MGD)		<u>Res.</u> G Pop. P		G Million Gal. Daily P (MGD)			<u>Res.</u> Pop.	G P	Capacity Million Gal. Daily (MGD)					
		C D	Res. Dem.	Oth. Dem.	Tot. Dem.	Ex. Cap.	Ser. <sup>2</sup>	C D	Res. Dem.	Oth. Dem.	Tot. Dem.	Pl. Cap.	Ser. <sup>3</sup>	C D	Res. Dem.	Oth. Dem.	Tot. Dem.	Pl. Cap.
Freedom/Sykesville <sup>4</sup>	25,964	85	2.209	.116	2.325	3.500	31,194	86	2.673	0.488	3.161	3.500	31,677	86	2.739	.548	3.287	3.500
Hampstead	6,094	67	0.410	0.067	0.477	0.900	7,822	72	0.565	0.320	0.885	0.900	8,083	73	0.587	0.361	0.948	0.900
Manchester	4,049	59	0.237	0.032	0.269	0.500	4,324	80	0.345	0.053	0.397	0.500	4,551	77	0.349	0.053	0.402	0.500
Mount Airy <sup>5</sup>	9,654	59	0.571	0.161	0.732	1.200	9,851	60	0.589	0.287	0.876	1.200	9,851	60	0.589	0.288	0.877	1.200
New Windsor <sup>67</sup>	1,441	46	0.067	0.012	0.079	0.115	1,701	49	0.084	0.029	0.113	0.115	1,701	49	0.084	0.073	0.157	0.250
Taneytown <sup>8 9</sup> Union Bridge <sup>10</sup>	7,234	88 47	0.640	0.191	0.831	1.100	8,801 1,792	81 71	0.714	0.272	0.989	1.100	8,801 2,767	81	0.714	0.272	0.989	1.100
Westminster <sup>11</sup>	28,839	144	4.156	0.676	4.832	5.000	33,124	138	4.588	1.08	5.688	6.5	33,525	138	4.628	1.118	5.746	6.5

- <sup>5</sup>The Priority calculations are based on the Mount Airy's "pipeline" allocations and were provided to the County by the Town.
- <sup>6</sup> New Windsor's Priority and Future calculations are based on 165 gal per unit for residential demand.

<sup>&</sup>lt;sup>3</sup> See Appendix 3 Method for Projecting Water Supply and Sewer Demands. Note: Table 32 corresponds with MDE's required Table 32 and is therefore out of sequence with preceding and succeeding table numbers.

<sup>&</sup>lt;sup>4</sup> Snowden Creek Rd infill lots (2) add 500 gpd Residential Priority; Stavlas property adds 700 gpd Other Priority

<sup>&</sup>lt;sup>7</sup> New Windsor will be eliminating this deficit by conducting an I&I project that will recapture more than 17,000 gpd.

<sup>&</sup>lt;sup>8</sup> The Priority calculations are based on the development projects in the approval process. These calculations account for I/I reductions in the York Street Pump Station. Taneytown Crossing has a total allocation of 4,500 gpd.

<sup>&</sup>lt;sup>9</sup> Mount Airy and Taneytown do not have any properties in the Future Planning Category.

<sup>&</sup>lt;sup>10</sup> Union Bridge will be eliminating this deficit by conducting an I&I project that will recapture more than 10,000 gpd

<sup>&</sup>lt;sup>11</sup> LEF Stone Chapel LLC Property has a total demand of 33,420 gpd. The Sewer map for Westminster has the Industrial zoned portion in Existing/FinalPlanning. The allocation is split; 24,252 gpd in Priority and 9,168 gpd in Future.