

Hendersonville

2023 ▾

The Division of Water Resources (DWR) provides the data contained within this Local Water Supply Plan (LWSP) as a courtesy and service to our customers. DWR staff does not field verify data. Neither DWR, nor any other party involved in the preparation of this LWSP attests that the data is completely free of errors and omissions. Furthermore, data users are cautioned that LWSPs labeled **PROVISIONAL** have yet to be reviewed by DWR staff. Subsequent review may result in significant revision. Questions regarding the accuracy or limitations of usage of this data should be directed to the water system and/or DWR.

1. System Information

Contact Information

Water System Name:	Hendersonville	PWSID:	01-45-010
Mailing Address:	305 Williams St. Hendersonville, NC 28792	Ownership:	Municipality
Contact Person:	Adam Steurer, PE	Title:	Utilities Director
Phone:	828-233-3207	Cell/Mobile:	828-243-4430
Secondary Contact:	Gracie Erwin	Phone:	828-697-3057
Mailing Address:	305 Williams St. Hendersonville, NC 28792	Cell/Mobile:	828-243-4430

Complete

Distribution System

Line Type	Size Range (Inches)	Estimated % of lines
Asbestos Cement	4-16	3.20 %
Cast Iron	4-20	13.70 %
Ductile Iron	4-30	25.90 %
Galvanized Iron	1.5-3	2.40 %
Other	2-24	18.30 %
Polyvinyl Chloride	2-12	36.50 %

What are the estimated total miles of distribution system lines? 690 Miles

How many feet of distribution lines were replaced during 2023? 10,765 Feet

How many feet of new water mains were added during 2023? 24,457 Feet

How many meters were replaced in 2023? 192

How old are the oldest meters in this system? 11 Year(s)

How many meters for outdoor water use, such as irrigation, are not billed for sewer services? 444

What is this system's finished water storage capacity? 18.1900 Million Gallons

Has water pressure been inadequate in any part of the system since last update? *Line breaks that were repaired quickly should not be included.* No

The meter replacement number does not include number of meters that had only the chambers replaced.

Programs

Does this system have a program to work or flush hydrants? Yes, Annually

Does this system have a valve exercise program? Yes, As Needed

Does this system have a cross-connection program? Yes

Does this system have a program to replace meters? Yes

Does this system have a plumbing retrofit program? No

Does this system have an active water conservation public education program? Yes

Does this system have a leak detection program? Yes

Water Conservation

What type of rate structure is used? Increasing Block, Uniform

How much reclaimed water does this system use? 0.0000 MGD For how many connections? 0

Does this system have an interconnection with another system capable of providing water in an emergency? Yes

2. Water Use Information

Service Area

Sub-Basin(s)	% of Service Population	County(s)	% of Service Population
French Broad River (05-2)	90 %	Henderson	99 %
Broad River (01-1)	10 %	Polk	1 %
		Buncombe	0 %

What was the year-round population served in 2023? 79,967

Has this system acquired another system since last report? No

Water Use by Type

Type of Use	Metered Connections	Metered Average Use (MGD)	Non-Metered Connections	Non-Metered Estimated Use (MGD)
Residential	28,254	3.0481	0	0.0000
Commercial	2,714	2.1300	0	0.0000
Industrial	9	0.0997	0	0.0000
Institutional	35	0.1387	0	0.0000

How much water was used for system processes (backwash, line cleaning, flushing, etc.)? 0.1518 MGD

Water Sales

Purchaser	PWSID	Average Daily Sold (MGD)	Days Used	MGD	Contract Expiration	Recurring	Required to comply with water use restrictions?	Pipe Size(s) (Inches)	Use Type
City of Asheville	01-11-010	0.0000	0	0.0000		No	Yes	24	Emergency
City of Saluda	01-75-020	0.1300	365	0.2000	2028	Yes	Yes	12	Regular

3. Water Supply Sources

Monthly Withdrawals & Purchases

	Average Daily Use (MGD)	Max Day Use (MGD)		Average Daily Use (MGD)	Max Day Use (MGD)		Average Daily Use (MGD)	Max Day Use (MGD)
Jan	7.0300	7.9200	May	7.4900	8.4700	Sep	8.1800	9.0500
Feb	6.8900	7.6500	Jun	7.8800	8.8500	Oct	7.8500	8.7200
Mar	6.9100	7.6000	Jul	8.1000	9.5900	Nov	7.4100	8.1000
Apr	7.0600	8.1100	Aug	8.0700	9.4100	Dec	7.0100	7.6000



Surface Water Sources

Stream	Reservoir	Average Daily Withdrawal		Maximum Day Withdrawal (MGD)	Available Raw Water Supply		Usable On-Stream Raw Water Supply Storage (MG)
		MGD	Days Used		MGD	* Qualifier	
Bradley Creek	Bradley Creek Reservoir	1.6000	365	2.5370	2.5000	C	3.0000
Mills River	Main Stem	4.5890	365	8.1080	12.0000	F	0.0000
North Fork Mills River	North Fork Reservoir	1.3010	365	2.0760	2.0000	C	4.0000

* Qualifier: C=Contract Amount, SY20=20-year Safe Yield, SY50=50-year Safe Yield, F=20% of 7Q10 or other instream flow requirement, CUA=Capacity Use Area Permit

Surface Water Sources (continued)

Stream	Reservoir	Drainage Area (sq mi)	Metered?	Sub-Basin	County	Year Offline	Use Type
Bradley Creek	Bradley Creek Reservoir	10	Yes	French Broad River (05-2)	Henderson		Regular
Mills River	Main Stem	70	Yes	French Broad River (05-2)	Henderson		Regular
North Fork Mills River	North Fork Reservoir	14	Yes	French Broad River (05-2)	Henderson		Regular

What is this system's off-stream raw water supply storage capacity? 0 Million gallons

Are surface water sources monitored? Yes, Daily

Are you required to maintain minimum flows downstream of its intake or dam? Yes

Does this system anticipate transferring surface water between river basins? Yes

Required to maintain minimum flow of 8 CFS below NF reservoir and 8 cfs below Bradley Creek Dam per special use permit with the USFS.

Water Purchases From Other Systems

Seller	PWSID	Average Daily Purchased (MGD)	Days Used	MGD	Contract Expiration	Recurring	Required to comply with water use restrictions?	Pipe Size(s) (Inches)	Use Type
City of Asheville	01-11-010	0.0000	0	0.0000	2026	Yes	Yes	24	Emergency

Water Treatment Plants

Plant Name	Permitted Capacity (MGD)	Is Raw Water Metered?	Is Finished Water Output Metered?	Source
Hendersonville WTP	12.0000	Yes	Yes	Bradley Creek, North Fork, Mills River, French Br.

Did average daily water production exceed 80% of approved plant capacity for five consecutive days during 2023? **No**

If yes, was any water conservation implemented?

Did average daily water production exceed 90% of approved plant capacity for five consecutive days during 2023? **No**

If yes, was any water conservation implemented?

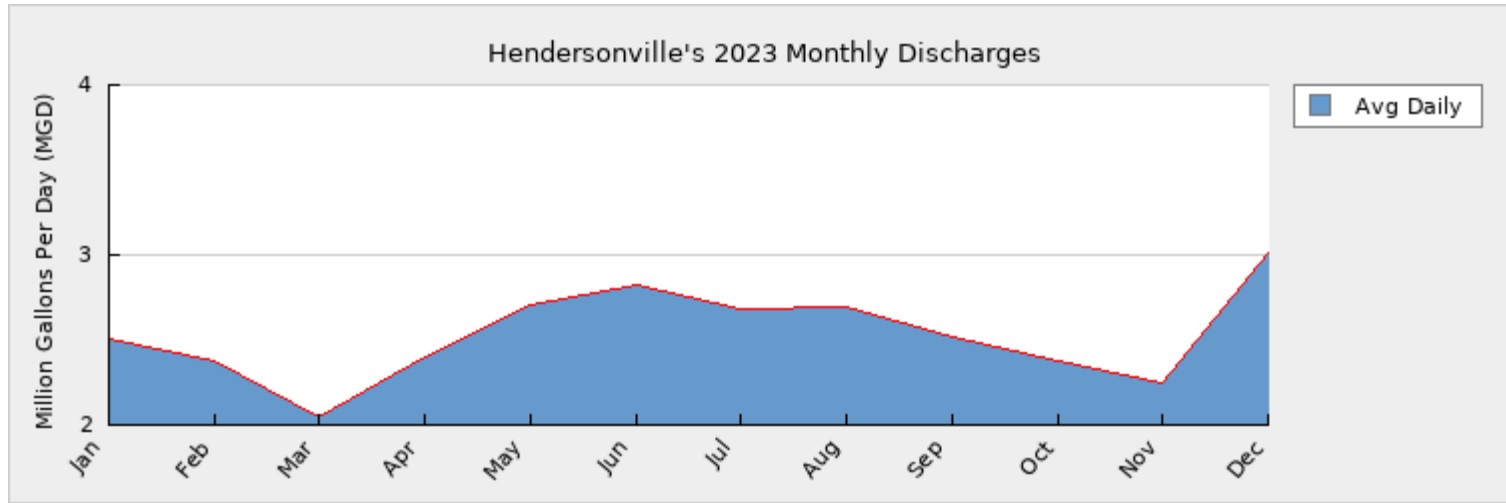
Are peak day demands expected to exceed the water treatment plant capacity in the next 10 years? **Yes**

Expansion planned for construction. Live date is set for summer of 2024.

4. Wastewater Information

Monthly Discharges

	Average Daily Discharge (MGD)		Average Daily Discharge (MGD)		Average Daily Discharge (MGD)
Jan	2.5036	May	2.7095	Sep	2.5122
Feb	2.3723	Jun	2.8279	Oct	2.3771
Mar	2.0437	Jul	2.6823	Nov	2.2510
Apr	2.4016	Aug	2.6964	Dec	3.0091



How many sewer connections does this system have? 10,413

How many water service connections with septic systems does this system have? 17,000

Are there plans to build or expand wastewater treatment facilities in the next 10 years? No

Wastewater Permits

Permit Number	Type	Permitted Capacity (MGD)	Design Capacity (MGD)	Average Annual Daily Discharge (MGD)	Maximum Day Discharge (MGD)	Receiving Stream	Receiving Basin
NC0025534	WWTP	4.8000	4.8000	2.4220	6.2110	Mud Creek	French Broad River (05-2)
NC0042277	WTP	12.0000	12.0000	0.1143	0.6210	Brandy Branch	French Broad River (05-2)

5. Planning

Projections

	2023	2030	2040	2050	2060	2070
Year-Round Population	79,967	82,433	99,382	119,816	144,452	174,153
Seasonal Population	0	0	0	0	0	0
Residential	3.0481	3.2978	3.9729	4.7957	5.7775	6.9672
Commercial	2.1300	2.2637	2.7219	3.2888	3.9621	4.7779
Industrial	0.0997	0.1430	0.1520	0.1610	0.1710	0.1810
Institutional	0.1387	0.1700	0.2090	0.2560	0.3140	0.3840
System Process	0.1518	0.1600	0.1680	0.1760	0.1850	0.1950
Unaccounted-for	1.7917	2.0796	2.4785	2.9596	3.5377	4.2410

The above values were calculated using the 2023 LWSP Projections Eval Tool 2023. These were calculated values from inputting our user demand (from 2023) into the historical table as the calculated usage was initially too low, and using the median gallons per capita day. The reported values above were the calculated demand projections for population, residential(historical rate) , commercial (historical) and institutional. Institutional was calculated using the same rate as the population growth (2.06%), which is based on institutions will grow with the population. The reported values for Industrial, and system processes were the values from the LWSP Projections as they are more indicative of future trends.

The unaccounted for values are the LWSP projections from the excel tool.

Future Supply Sources

Source Name	PWSID	Source Type	Additional Supply	Year Online	Year Offline	Type
French Broad River	01-45-010	Surface	15.0000	2024		Regular

Demand v/s Percent of Supply

	2023	2030	2040	2050	2060	2070
Surface Water Supply	16.5000	16.5000	16.5000	16.5000	16.5000	16.5000
Ground Water Supply	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Purchases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Future Supplies		15.0000	15.0000	15.0000	15.0000	15.0000
Total Available Supply (MGD)	16.5000	31.5000	31.5000	31.5000	31.5000	31.5000
Service Area Demand	7.3600	8.1141	9.7023	11.6371	13.9473	16.7461
Sales	0.1300	0.2000	0.2000	0.2000	0.2000	0.2000
Future Sales		0.0000	0.0000	0.0000	0.0000	0.0000
Total Demand (MGD)	7.4900	8.3141	9.9023	11.8371	14.1473	16.9461
Demand as Percent of Supply	45%	26%	31%	38%	45%	54%



The purpose of the above chart is to show a general indication of how the long-term per capita water demand changes over time. The per capita water demand may actually be different than indicated due to seasonal populations and the accuracy of data submitted. Water systems that have calculated long-term per capita water demand based on a methodology that produces different results may submit their information in the notes field.

Your long-term water demand is 38 gallons per capita per day. What demand management practices do you plan to implement to reduce the per capita water demand (i.e. conduct regular water audits, implement a plumbing retrofit program, employ practices such as rainwater harvesting or reclaimed water)? If these practices are covered elsewhere in your plan, indicate where the practices are discussed here. Hendersonville currently has a city sponsored rain barrel program for our water customers. The program allows customers to get a rain barrel at a discounted rate to promote using rainwater for irrigation, and other non potable uses such as car washing. Hendersonville plans to continue offering this program.

The city also promotes water conservation through an outreach education program. The program participates in EPA Water Sense programs to promote education around conserving water.

The City also partners with AquaHawk, a leak detection program to help customers find and ID when they are having a leak. The city also offers a leak adjustment program to promote fixing leaks. The city also offers a rebate program for selected water conserving appliances (ie smart irrigation controllers, and customer side shut off valves)

Are there other demand management practices you will implement to reduce your future supply needs? In 2023 the city began developing a new master plan for both the water treatment plant and the water distribution systems. These plans anticipate adoption in 2024.

What supplies other than the ones listed in future supplies are being considered to meet your future supply needs?

How does the water system intend to implement the demand management and supply planning components above?

Additional Information

Has this system participated in regional water supply or water use planning? **No**

What major water supply reports or studies were used for planning?

Please describe any other needs or issues regarding your water supply sources, any water system deficiencies or needed improvements (storage, treatment, etc.) or your ability to meet present and future water needs. Include both quantity and quality considerations, as well as financial, technical, managerial, permitting, and compliance issues:

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