



## **Agenda**

**Camden County Board of Commissioners  
June 25, 2024; 6:00 PM  
Camden Public Library - Boardroom  
118 Hwy 343 North**

**ITEM 1.     Welcome & Call to Order**

**ITEM 2.     Consideration of Agenda**

**ITEM 3.     Public Hearing**

A. Consideration of Development Moratorium – Erin Burke

**ITEM 4.     Adjourn**



## MEMORANDUM

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To: Chair Bradshaw & Planning Board Members

From: Erin Burke, County Manager

Date: May 15, 2024

RE: Consideration of Establishing a Moratorium

### BACKGROUND

The Board of Commissioners received information from Chuck Jones, the Camden County Public Works Director at a work session on March 19, 2024 outlining current water and waste water usage and allocation to meet the needs of approved development. Following the presentation and discussion the Board, by consensus, agreed to “Research possible implementation of a 24-month moratorium to allow the County to procure funding and permitting and to ensure that County water and sewer facilities are adequate for impending growth.”

At the May 6, 2024 Board of Commissioners meeting, the Board directed staff by a vote of 4-1 to begin the process of establishing a moratorium due to limited waste water treatment capacity. At the same meeting, the Board of Commissioners also approved a contract with Timmons Group for planning services for wastewater, particularly in the South Mills service area. This contract will outline the entire permitting, design, and construction process and provide an estimate of overall project cost and schedule. A breakdown of all permitting, design, construction, and owner responsible costs will be provided. This will be an estimate as not all steps and costs can be predicted. Initial steps toward the permitting and design for a new waste water treatment plant (WWTP) to serve the northern end of the County will take two to two and a half years.

### GENERAL STATUTE REQUIREMENTS

NCGS§160D-107 outlines the law associated with Moratoria in North Carolina. It outlines local governmental authority to adopt moratoria, the hearing process required, the projects which are exempt from moratoria, required findings, limit of renewal and extension, and the judicial review proceedings should a moratorium be challenged. A copy of both the statute and the referenced hearing requirements are attached to this memo.

### FINDINGS

In accordance with NCGS§160D-107(d) Required Statements, staff has identified the following findings:

*A statement of the problems or conditions necessitating the moratorium and what courses of action, alternative to a moratorium, were considered by the local government and why those alternative courses of action were not deemed adequate.*

According to a March 2024 review of current water & waste water usage and projected allocations for vested developments, the ability to provide adequate water & waste water services will be quickly outpaced by the construction of new residential properties. Given the condition of lands in Camden County according to the Albemarle Regional Health System, the use of traditional septic systems are difficult to permit. Additionally, septic systems have proven to be a health and safety concern when they are not maintained properly and fail. The use of central sewer protects the health, safety, and

welfare of current and future residents. Additional production capacity at the water plant will be needed as well. Built in capacity can be created with the construction of clear well storage, but the water plant will need to increase production to keep up with future demands. The County is obligated to provide services to vested properties and needs time to construct adequate facilities before considering additional users.

*A statement of the development approvals subject to the moratorium and how a moratorium on those approvals will address the problems or conditions leading to imposition of the moratorium.*

Staff proposes stopping approvals on any new subdivisions and multifamily developments. These users have traditionally been the highest users of waste water in Camden County, and by pausing review and approval of these types of uses, the County will be able to build facilities to meet approved and future needs. Staff notes in accordance with NCGS§160D-107 (c) Exempt Projects, “Absent an imminent threat to public health or safety, a development moratorium adopted pursuant to this section does not apply to any project for which a valid building permit issued pursuant to G.S. 160D-1108 is outstanding, to any project for which a special use permit application has been accepted as complete, to development set forth in a site-specific vesting plan approved pursuant to G.S. 160D-108.1, to development for which substantial expenditures have already been made in good-faith reliance on a prior valid development approval, or to preliminary or final subdivision plats that have been accepted for review by the local government prior to the call for a hearing to adopt the moratorium. Any preliminary subdivision plat accepted for review by the local government prior to the call for a hearing, if subsequently approved, shall be allowed to proceed to final plat approval without being subject to the moratorium.”

*A date for termination of the moratorium and a statement setting forth why that duration is reasonably necessary to address the problems or conditions leading to imposition of the moratorium.*

Staff projects that the time period for addressing permitting and construction of a new WWTP will take approximately two to two and a half years. Construction of clear well storage will be a similar time frame, while water plant expansion would likely be longer. Staff would request the moratorium be effective for 30 months from the date of approval, noting that it could be rescinded earlier should conditions allow.

*A statement of the actions, and the schedule for those actions, proposed to be taken by the local government during the duration of the moratorium to address the problems or conditions leading to imposition of the moratorium.*

Camden County has invested substantial funding in preparing documents for the construction of a new WWTP. The plans were developed using Rural Ready grant funds, and are at 65% completion. The remainder of the engineering is contingent upon the location of a new plant and the method of disposal. The Board of Commissioners approved a contract at their May 6, 2024 meeting to outline the entire permitting, design, and construction process and provide an estimate of overall project cost and schedule. In the deliverables for this contract, the County will receive a breakdown of all permitting, design, construction, and owner responsible costs. This breakdown will be an estimate as not all steps and costs can be predicted. The County has identified the need for “South Mills Waste Water Expansion and Disposal (Plant)” in the Capital Improvement Plan (CIP) for a number of years, and will in the 2024-2029 CIP move it from the Unfunded to Funded category. At the March 19, 2024 meeting staff were instructed to begin the investigatory process for the construction of clear well storage at the water plant. This will need to include design, bid and construction and would likely take two to two and half years.

## **RECOMMENDATION**

It is staff’s recommendation that the Planning Board recommend to the Board of Commissioners approval of a 30-month moratorium on new subdivisions and multifamily developments as a result of limited water production and waste water treatment capacity.

At the special meeting on May 22, 2024 the Planning Board voted 6-1 to recommend to the Board of Commissioners approval of a 30-month moratorium on new subdivisions and multifamily developments as a result of limited water production and waste water treatment capacity.

Set Public Hearing for June 25, 2024 at 6:00 PM.

# Camden County North Carolina



Water and Sewer current and proposed needs

**Synopsis:**

The county is experiencing unprecedented growth, and the demand for services will quickly outstrip what is currently available, both potable water and wastewater.

**Water Treatment**

Currently the water treatment facility is rated for 720 000 gallons per day. That number is based on one train running 24 hours per day. The facility could, theoretically produce 1.44 million gallons per day with both trains running 24 hours per day. This scenario would require 1.9 million gallons per day of raw water drawn from the ground. This would require at least four wells to run to produce this amount of water. The county currently has five wells and three more in development.

**Wastewater Treatment**

Currently the County has two wastewater treatment plants. The Courthouse Area Plant is rated for 50,000 gallons per day, the South Mills Plant is rated for 100,000 gallons per day. The current average at the Courthouse area is approximately 25,000 gallons per day and the South Mills plant is approximately 15,000 gallons per day. The County has plans in hand to expand the Courthouse Area plant and replace the South Mills plant.

**Current Services Already Allocated**

**South Mills**

**Currently allocated**

**Water and Sewer**

- South Mills landing phase one 47,000 gallons per day
- Camden Lakes 43,600 gallons per day

**Water only**

- Keeter barn 15,000 gallons per day

**Proposed**

**Water and Sewer**

- South Mills Landing Phase 2, 3, 4 and 5 180,000 gallons per day
- Wharf's landing Phase 2 32,000 gallons per day

## **South Camden**

### **Currently allocated**

#### **Water and Sewer**

- High school 9000 gallons per day (with no school being closed)
- Camden Station 8700 gallons per day

#### **Water only**

- Small subdivisions 30 Lots 12000 gallons per day
- Meadows at North River 9200 gallons per day
- North River Crossing Phase 3 6000 gallons per day

### **Proposed**

#### **Water and sewer**

- Lots beside library 44,000 gallons per day

#### **Water only**

- Small subdivisions 12,000 gallons per day

### **Totals**

Total water allocated	128,500 gallons per day
Total sewer allocated	108,700 gallons per day
Total water proposed	268, 000 gallons per day
Total sewer proposed	256,000 gallons per day

With current averages of potable water of 495,000 gallons per day, that leaves a surplus of 225,000 gallons of potable water available for growth, at the current 720,000 gallons per day.

With current average flow at the South Mills WWTP, the allocated sewer puts that facility over it's limit. There is no room for the proposed flows

With the current average at the Courthouse Area WWTP, the allocated puts that facility at almost 90% of it's capacity. The proposed will put it over the current limit. It would put the facility at 62% of the current permitted build-out flow of 100,000 gallons per day.



### **Current treatment capacity of the SCWSD Water Treatment Facility:**

The current facility is permitted for 720,000 gallons per day. That is based on one treatment train operating at 500 gallons per minute running 24 hours. To produce that amount of water, the plant needs to bring in 1,029,000 gallons. The second train was added to allow the facility the flexibility to have one train down for maintenance and still produce water. Currently, both trains are operated at the same time in order to produce the required daily demand in as short of time as possible.

There is currently no reject water discharge limit (to the river). Water plant limits are based on well production and the ability to rest wells for an averaged 12 hours.

The facility currently produces an average of 495,000 gallons per day. With current wells and storage capacity, an operational schedule can be worked out so that the facility can produce the 720,000 gallons per day. Possibly requiring extending the operating time therefore increasing staff, or investing in a more robust SCADA system to allow the plant to run unattended.

### **Current Capacities:**

One treatment train: 500 gallons per minute

Both trains: 950 – 1000 gallons per minute (some loss in efficiency due to shared piping and pumping)

With an adequate water source and sufficient storage, the current facility could possibly produce close to 1.44 million gallons per day. This would take both trains running 24 hours per day.

### **Well yields:**

#### **Current Wells**

Well 1 Shallow: 370 gallons per minute

Well 1 Deep: 350 gallons per minute

Well 2 Shallow: 370 gallons per minute

Well 2 Deep: 350 gallons per minute

Well 3 Shallow: 400 gallons per minute

#### **Proposed Wells**

Well 4 Shallow: 370 gallons per minute

Well 4 Deep: 350 gallons per minute

Well 3 Deep: 400 gallons per minute

### **Current storage:**

Clear well (at the plant): 500,000 gallons

Burnt Mills tower: 300,000 gallons

Shiloh tower: 200,000 gallons

### **Future Needs:**

- Larger clear well at the water plant to store finished water (at least 1 million gallons)
- Larger raw water reservoir to allow a buffer between the wells and the plant
- Another elevated tank in the northern end of the county to provide adequate storage for growth



- Another elevated tank at the southern end of the county for storage and pressure
- Start to add another set of treatment trains (increase building size to add 4 more)
- Aggressively pursue wellfield expansion

### **Current wastewater treatment**

The Courthouse Area treatment facility is currently operating in the 50% average range of its permitted capacity. The South Mills treatment plant is operating at about 15% of its capacity. The South Mills facility can be brought back to potentially treat 100,000 gallons per day. That is the amount it is permitted for. The state requires that when a treatment facility reaches an annual average of 80% of capacity, plans are drawn up to expand the facility. At 90% capacity, construction is to start. The County currently has plans for this facility to be expanded on land that the county owns. The proposal is to build a treatment plant that can be done in phases, with a buildout of 1 million gallons per day. This would ultimately include a discharge to surface waters. There is also the possibility of utilizing land that is currently under cultivation for more spray field and constructing a high rate infiltration filter to dispose of treated wastewater.

The Courthouse Area facility already has plans, permitting and room to expand to 100,000 gallons per day. There is the possibility that it can be upgraded to approximately 250,000 gallons per day with the purchase of more land.

### **Solutions**

Nothing this would put the county behind and unable to provide promised services

Deny some services to future subdivisions, i.e. sewer

Start increasing storage for treated water and small upgrades to wastewater treatment (kicking can down the road).

Start massive increase in services immediately, procuring money by whatever means available (loans, bonds etc.).

Actively pursue public/private partnerships, requiring money from developers to pay for expansion, beyond capacity fees.

Small treatment plants scattered throughout the county, these would serve only one subdivision.

Moratorium 24 Months. This would allow the county to procure funding and permitting to ensure that the facilities are adequate for the foreseeable future.

- (7) Each supplier of water shall notify the Department of any known incident of backflow into the public water system that creates a risk of contamination as soon as practical upon discovery of the incident but no later than the end of the next business day. If requested by the Department, the supplier of water shall submit a written report of the incident describing the nature and severity of the backflow, the actions taken by the supplier of water in response to the incident, and the action plan intended to prevent such incidents in the future.

*History Note:* Authority G.S. 130A-315; 130A-317; P.L. 93-523;  
 Eff. January 1, 1977;  
 Readopted Eff. December 5, 1977;  
 Amended Eff. April 1, 2014; September 1, 1990; December 1, 1988; June 30, 1980;  
 Readopted Eff. July 1, 2019.

#### 15A NCAC 18C .0407 ELECTRICAL SYSTEMS

Electrical wiring and equipment shall comply with applicable provisions of the national, state, and local electrical codes. Protection against moisture and overheating shall be provided.

*History Note:* Authority G.S. 130A-315; 130A-317; P.L. 93-523;  
 Eff. January 1, 1977;  
 Readopted Eff. December 5, 1977;  
 Amended Eff. July 1, 1994;  
 Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. November 23, 2015.

#### 15A NCAC 18C .0408 LEAD FREE CONSTRUCTION

(a) All pipe, pipe fitting, solder or flux used in the installation or repair of a public water system shall be lead free.

(b) "Lead free" means:

- (1) not containing more than 0.2 percent lead when used with respect to solder and flux; and
- (2) not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.

*History Note:* Authority G.S. 130A-315; P.L. 93-523; 40 C.F.R. 141;  
 Eff. June 1, 1988;  
 Amended Eff. August 1, 2002;  
 Readopted Eff. July 1, 2019.

#### 15A NCAC 18C .0409 SERVICE CONNECTIONS

(a) Local Water Supply Plan. Units of local government that are operating under a local water supply plan in accordance with G.S. 143-355(l) shall not be limited in the number of service connections.

(b) No local water supply plan. A public water system that does not have a local water supply plan as stated in Paragraph (a) shall limit its number of service connections as follows:

- (1) A public water system shall meet the daily flow requirements specified in Table 1:

Table 1: Daily Flow Requirements

Type of Service Connection	Daily Flow for Design
Residential	400 gallon/connection
Mobile Home Parks	250 gallon/connection
Campgrounds and Travel Trailer Parks	100 gallon/space
Marina	10 gallon/boat slip
Marina with bathhouse	30 gallon/boat slip
Rest Homes and Nursing Homes	
with laundry	120 gallon/bed
without laundry	60 gallon/bed
Schools	15 gallon/student
Day Care Facilities	15 gallon/student



Construction, work, or summer camps	60 gallon/person
Business, office, factory (exclusive of industrial use)	
without showers	25 gallon/person/shift
with showers	35 gallon/person/shift
Hospitals	300 gallon/bed

or;

- (2) A public water system shall meet the daily flow requirements calculated as follows:
- (A) If records of the previous year are available that reflect daily usage, the average of the two highest consecutive days of record of the water treated shall be the value used to determine if there is capacity to serve additional service connections. Unusual events, such as massive line breaks or line flushings, shall not be considered.
  - (B) If complete daily records of water treated are not available, the public water system shall multiply the daily average use based on the amount of water treated during the previous year of record by the appropriate factor to determine maximum daily demand, as follows:
    - (i) A system serving a population of 10,000 or less shall multiply the daily average use by 2.5; or
    - (ii) A system serving a population greater than 10,000 shall multiply the daily average use by 2.0.

(c) A supplier of water shall include the impact that demands from anticipated in-ground irrigation systems, multi-family units, or vacation rental homes will have on the daily flow needs determined in Paragraph (b) of this Rule.

(d) If two years of metered usage data exists, a supplier of water may recalculate the daily flow requirements based on the actual usage. If actual demands are lower than the projected demand, recovered supply may be used to support additional connections in accordance with Paragraph (b) of this Rule.

(e) A supplier of water shall be exempt from using Table 1 in Subparagraph (b)(1) of this Rule and any other design flow standards established by the Department or the Commission to determine the daily flow requirements, provided that a professional engineer licensed pursuant to G.S. 89C prepares, seals, and signs documentation supporting alternative daily flow requirements that are sufficient to sustain the water usage required in the engineering design by using low-flow fixtures or flow reduction technologies.

*History Note:* Authority G.S. 130A-315; 130A-317; P.L. 93-523;  
Eff. July 1, 1994;  
Readopted Eff. July 1, 2019.

**15A NCAC 02T .0114 WASTEWATER DESIGN FLOW RATES**

(a) This Rule shall be used to determine wastewater flow rates for all systems governed by this Subchapter unless alternate criteria are provided by a program-specific rule or for flow used for the purposes of 15A NCAC 02H .0105. Higher flow rates shall be required where usage and occupancy are atypical, including those in Paragraph (e) of this Rule. Wastewater flow calculations shall take hours of operation and anticipated maximum occupancies and usage into account when calculating peak flows for design.

(b) In determining the volume of sewage from dwelling units, the flow rate shall be 120 gallons per day per bedroom. The minimum volume of sewage from each dwelling unit shall be 240 gallons per day and each additional bedroom above two bedrooms shall increase the volume by 120 gallons per day. Each bedroom or any other room or addition that can function as a bedroom shall be considered a bedroom for design purposes. When the occupancy of a dwelling unit exceeds two persons per bedroom, the volume of sewage shall be determined by the maximum occupancy at a rate of 60 gallons per person per day.

(c) The following table shall be used to determine the minimum allowable design daily flow of wastewater facilities. Design flow rates for establishments not identified below shall be determined using available flow data, water-using fixtures, occupancy or operation patterns, and other measured data.

Type of Establishments	Daily Flow For Design
Barber and beauty shops	
Barber Shops	50 gal/chair
Beauty Shops	125 gal/booth or bowl
Businesses, offices and factories	
General business and office facilities	25 gal/employee/shift
Factories, excluding industrial waste	25 gal/employee/shift
Factories or businesses with showers or food preparation	35 gal/employee/shift
Warehouse	100 gal/loading bay
Warehouse – self storage (not including caretaker residence)	1 gal/unit
Churches	
Churches without kitchens, day care or camps	3 gal/seat
Churches with kitchen	5 gal/seat
Churches providing day care or camps	25 gal/person (child & employee)
Fire, rescue and emergency response facilities	
Fire or rescue stations without on site staff	25 gal/person
Fire or rescue stations with on-site staff	50 gal/person/shift
Food and drink facilities	
Banquet, dining hall	30 gal/seat
Bars, cocktail lounges	20 gal/seat
Caterers	50 gal/100 sq ft floor space
Restaurant, full Service	40 gal/seat
Restaurant, single service articles	20 gal/seat
Restaurant, drive-in	50 gal/car space
Restaurant, carry out only	50 gal/100 sq ft floor space
Institutions, dining halls	5 gal/meal
Deli	40 gal/100 sq ft floor space
Bakery	10 gal/100 sq ft floor space
Meat department, butcher shop or fish market	75 gal/100 sq ft floor space
Specialty food stand or kiosk	50 gal/100 sq ft floor space
Hotels and Motels	
Hotels, motels and bed & breakfast facilities, without in-room cooking facilities	120 gal/room
Hotels and motels, with in-room cooking facilities	175 gal/room
Resort hotels	200 gal/room
Cottages, cabins	200 gal/unit
Self service laundry facilities	500 gal/machine
Medical, dental, veterinary facilities	
Medical or dental offices	250 gal/practitioner/shift
Veterinary offices (not including boarding)	250 gal/practitioner/shift

3 BR  
360



Veterinary hospitals, kennels, animal boarding facilities	20 gal/pen, cage, kennel or stall
Hospitals, medical	300 gal/bed
Hospitals, mental	150 gal/bed
Convalescent, nursing, rest homes without laundry facilities	60 gal/bed
Convalescent, nursing, rest homes with laundry facilities	120 gal/bed
Residential care facilities	60 gal/person
Parks, recreation, camp grounds, R-V parks and other outdoor activity facilities	
Campgrounds with comfort station, without water or sewer hookups	75 gal/campsite
Campgrounds with water and sewer hookups	100 gal/campsite
Campground dump station facility	50 gal/space
Construction, hunting or work camps with flush toilets	60 gal/person
Construction, hunting or work camps with chemical or portable toilets	40 gal/person
Parks with restroom facilities	250 gal/plumbing fixture
Summer camps without food preparation or laundry facilities	30 gal/person
Summer camps with food preparation and laundry facilities	60 gal/person
Swimming pools, bathhouses and spas	10 gal/person
Public access restrooms	325 gal/plumbing fixture
Schools, preschools and day care	
Day care and preschool facilities	25 gal/person (child & employee)
Schools with cafeteria, gym and showers	15 gal/student
Schools with cafeteria	12 gal/student
Schools without cafeteria, gym or showers	10 gal/student
Boarding schools	60 gal/person (student & employee)
Service stations, car wash facilities	
Service stations, gas stations	250 gal/plumbing fixture
Car wash facilities	1200 gal/bay
Sports centers	
Bowling center	50 gal/lane
Fitness, exercise, karate or dance center	50 gal/100 sq ft
Tennis, racquet ball	50 gal/court
Gymnasium	50 gal/100 sq ft
Golf course with only minimal food service	250 gal/plumbing fixture
Country clubs	60 gal/member or patron
Mini golf, putt-putt	250 gal/plumbing fixture
Go-kart, motocross	250 gal/plumbing fixture
Batting cages, driving ranges	250 gal/plumbing fixture
Marinas without bathhouse	10 gal/slip
Marinas with bathhouse	30 gal/slip
Video game arcades, pool halls	250 gal/plumbing fixture
Stadiums, auditoriums, theaters, community centers	5 gal/seat
Stores, shopping centers, malls and flea markets	
Auto, boat, recreational vehicle dealerships/showrooms with restrooms	125 gal/plumbing fixture
Convenience stores, with food preparation	60 gal/100 sq ft
Convenience stores, without food preparation	250 gal/plumbing fixture
Flea markets	30 gal/stall
Shopping centers and malls with food service	130 gal/1000 sq ft
Stores and shopping centers without food service	100 gal/1000 sq ft
Transportation terminals – air, bus, train, ferry, port and dock	5 gal/passenger

(d) Design daily flow rates for proposed non-residential developments where the types of use and occupancy are not known shall be designed for a minimum of 880 gallons per acre, or the applicant shall specify an anticipated flow based upon anticipated or potential uses.

(e) Design daily flow rates for residential property on barrier islands and similar communities located south or east of the Atlantic Intracoastal Waterway and used as vacation rental as defined in G.S. 42A-4 shall be 120 gallons per day per habitable room. Habitable room shall mean a room or enclosed floor space used or intended to be used for living or sleeping, excluding kitchens and dining areas, bathrooms, shower rooms, water closet compartments, laundries, pantries, foyers, connecting corridors, closets, and storage spaces.

(f) An adjusted daily sewage flow design rate shall be granted for permitted but not yet tributary connections and future connections tributary to the system upon showing that the capacity of a sewage system is adequate to meet actual daily wastewater flows from a facility included in Paragraph (b) or (c) of this Rule without causing flow violations at the receiving wastewater treatment plant or capacity-related sanitary sewer overflows within the collection system as follows:

- (1) Documented, representative data from that facility or a comparable facility shall be submitted by an authorized signing official in accordance with Rule .0106 of this Section to the Division for all flow reduction requests, as follows:
  - (A) dates of flow meter calibrations during the time frame evaluated and indication if any adjustments were necessary;
  - (B) a breakdown of the type of connections (e.g. two bedroom units, three bedroom units) and number of customers for each month of submitted data as applicable. Identification of any non-residential connections including subdivision clubhouses and pools, restaurants, schools, churches and businesses. For each non-residential connection, information identified in Paragraph (c) of this Rule (e.g. 200 seat church, 40 seat restaurant, 35 person pool bathhouse);
  - (C) a letter of agreement from the owner or an official, meeting the criteria of Rule .0106 of this Section, of the receiving collection system or treatment works accepting the wastewater and agreeing with the adjusted design rate;
  - (D) age of the collection system;
  - (E) analysis of inflow and infiltration within the collection system or receiving treatment plant, as applicable;
  - (F) if a dedicated wastewater treatment plant serves the specific area and is representative of the residential wastewater usage, at least the 12 most recent consecutive monthly average wastewater flow readings and the daily total wastewater flow readings for the highest average wastewater flow month per customers, as reported to the Division;
  - (G) if daily data from a wastewater treatment plant cannot be used or is not representative of the project area: 12 months worth of monthly average wastewater flows from the receiving treatment plant shall be evaluated to determine the peak sewage month. Daily wastewater flows shall then be taken from a flow meter installed at the most downstream point of the collection area for the peak month selected that is representative of the project area. Justification for the selected placement of the flow meter shall also be provided; and
  - (H) an estimated design daily sewage flow rate shall be determined by calculating the numerical average of the top three daily readings for the highest average flow month. The calculations shall also account for seasonal variations, excessive inflow and infiltration, age and suspected meter reading and recording errors.
- (2) The Division shall evaluate all data submitted but shall also consider other factors in granting, with or without adjustment, or denying a flow reduction request including: applicable weather conditions during the data period (i.e. rainy or drought), other historical monitoring data for the particular facility or other similar facilities available to the Division, the general accuracy of monitoring reports and flow meter readings, and facility usage, such as whether the facility is in a resort area.
- (3) Flow increases shall be required if the calculations required by Subparagraph (f)(1) of this Rule yield design flows higher than that specified in Paragraphs (b) or (c) of this Rule.
- (4) The permittee shall retain the letter of any approved adjusted daily design flow rate for the life of the facility and shall transfer such letter to a future permittee.

*History Note: Authority G.S. 143-215.1; 143-215.3(a)(1);  
Eff. September 1, 2006;  
Readopted Eff. September 1, 2018.*



# South Camden Water and Sewer District

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

### Provisional

Water System Name:	South Camden Water and Sewer District	PWSID:	04-15-015
Mailing Address:	103 Water Plant Drive Camden, NC 27921	Ownership:	County
Contact Person:	Charles Jones	Title:	Public Works Director
Phone:	252-335-1216	Cell/Mobile:	252-340-3040
Secondary Contact:	Tommy Sawyer	Phone:	252-335-1216
Mailing Address:	103 Water Plant Drive Camden, NC 27921	Cell/Mobile:	--

Line Type	Size Range (Inches)	Estimated % of lines
Polyvinyl Chloride	2-16	100.00 %
What are the estimated total miles of distribution system lines? 95 Miles		
How many feet of distribution lines were replaced during 2023? 10 Feet		
How many feet of new water mains were added during 2023? 0 Feet		
How many meters were replaced in 2023? 150		
How old are the oldest meters in this system? 22 Year(s)		
How many meters for outdoor water use, such as irrigation, are not billed for sewer services? 0		
What is this system's finished water storage capacity? 1.0000 Million Gallons		
Has water pressure been inadequate in any part of the system since last update? <i>Line breaks that were repaired quickly should not be included.</i> No		
Does this system have a program to work or flush hydrants? Yes, Annually		
Does this system have a valve exercise program? Yes, Annually		
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? No		
Does this system have a leak detection program? No		
What type of rate structure is used? Increasing Block		
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

Sub-Basin(s)	% of Service Population	County(s)	% of Service Population
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## Albemarle Sound (12-1)

100 %

Camden

100 %

What was the year-round population served in 2023? 6,096

System Map: [download](#) 

Has this system acquired another system since last report? No

Type of Use	Metered Connections	Metered Average Use (MGD)	Non-Metered Connections	Non-Metered Estimated Use (MGD)
Residential	2,307	0.3832	0	0.0000
Commercial	76	0.0227	0	0.0000
Industrial	0	0.0000	0	0.0000
Institutional	24	0.0070	0	0.0000

How much water was used for system processes (backwash, line cleaning, flushing, etc.)? 0.1953 MGD

Purchaser	PWSID	Average Daily Sold (MGD)	Days Used	Contract			Required to comply with water use restrictions?	Pipe Size(s) (Inches)	Use Type
				MGD	Expiration	Recurring			
Currituck Co	04-27-010	0.0000	0	0.0000		No	Yes	12	Emergency
South Mills Purchase	60-15-004	0.1732	365	0.1500	2051	Yes	Yes	14	Regular

## 3. Water Supply Sources

	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	0.7406	1.6140	May	0.8199	1.1820	Sep	0.8455	1.2150
Feb	0.6419	0.8190	Jun	0.8306	1.1470	Oct	0.8441	1.1110
Mar	0.7226	0.8690	Jul	0.9002	1.2280	Nov	0.7798	1.0020
Apr	0.7488	0.8950	Aug	0.9583	1.3670	Dec	0.8669	1.1680

Name or Number	Average Daily Withdrawal (MGD)		Max Day Withdrawal (MGD)	12-Hour Supply (MGD)	CUA Reduction	Year Offline	Use Type
	MGD	Days Used					
Seymour Well #3	0.2694	166	0.5170	0.1680			Regular
WS 1 DW	0.2199	332	0.5290	0.1970			Regular
WS 1 SW	0.2049	332	0.4370	0.1640			Regular
WS 2 DW	0.2485	334	0.5200	0.1970			Regular
WS 2 SW	0.2230	168	0.5500	0.1640			Regular

Name or Number	Well Depth (Feet)	Casing Depth (Feet)	Screen Depth (Feet)		Well Diameter (Inches)	Pump Intake Depth (Feet)	Metered?
			Top	Bottom			
Seymour Well #3	130	72	72	117	8	60	Yes
WS 1 DW	595	540	540	590	10	120	Yes
WS 1 SW	125	80	80	120	10	80	Yes

WS 2 DW	595	540	540	590	10	100	Yes
WS 2 SW	125	80	80	120	10	80	Yes

Are ground water levels monitored? Yes, Daily

Does this system have a wellhead protection program? Yes

Seller	PWSID	Average Daily Purchased (MGD)	Days Used	Contract		Required to comply with water use restrictions?	Pipe Size(s) (Inches)	Use Type
				MGD	Expiration Recurring			
Elizabeth City	04-70-010	0.0000	0	0.0000		Yes	10	Emergency

Plant Name	Permitted Capacity (MGD)	Is Raw Water Metered?	Is Finished Water Output Metered?	Source
Camden Co RO	0.7200	Yes	Yes	Yorktown and Castle Hayne Aquifers

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? No

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

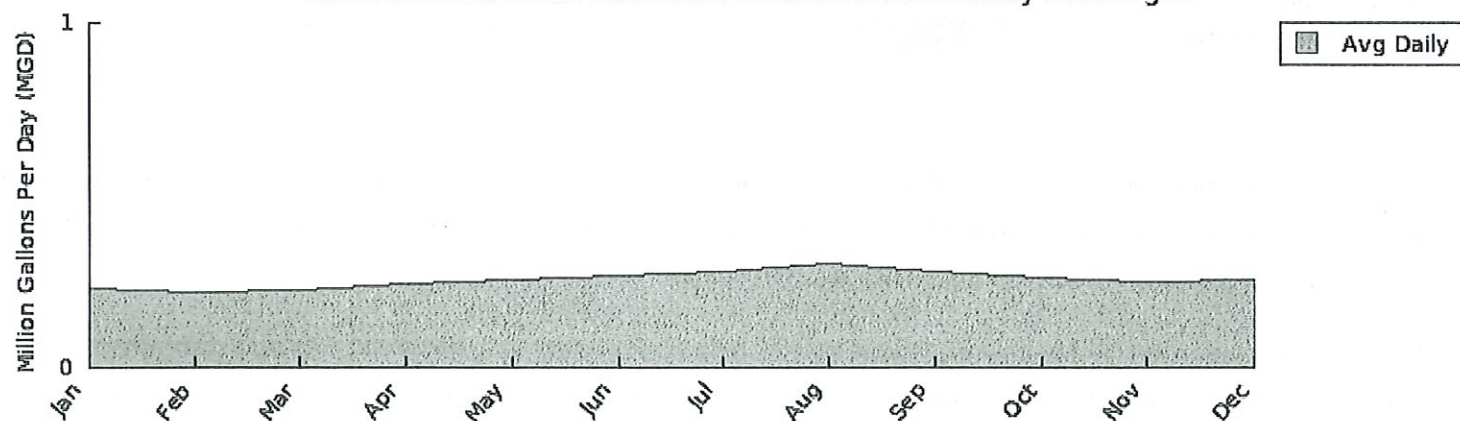
If yes, was any water conservation implemented? No

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

## 4. Wastewater Information

	Average Daily Discharge (MGD)		Average Daily Discharge (MGD)		Average Daily Discharge (MGD)
Jan	0.2310	May	0.2549	Sep	0.2790
Feb	0.2199	Jun	0.2667	Oct	0.2571
Mar	0.2212	Jul	0.2761	Nov	0.2445
Apr	0.2414	Aug	0.3021	Dec	0.2526

South Camden Water and Sewer District's 2023 Monthly Discharges



How many sewer connections does this system have? 190

How many water service connections with septic systems does this system have? 1,920

Are there plans to build or expand wastewater treatment facilities in the next 10 years? Yes

Planning to expand the existing plants and build a new plant to handle expected growth in the future.

Permit Number	Type	Permitted Capacity	Design Capacity	Average Annual Daily Discharge	Maximum Day Discharge	Receiving Stream	Receiving Basin
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		(MGD)	(MGD)	(MGD)	(MGD)		
NC0086681	WTP	0.0000	0.2160	0.2500		Pasquotank River	Albemarle Sound (12-1)

## 5. Planning

	2023	2030	2040	2050	2060	2070
Year-Round Population	6,096	6,100	6,300	6,400	6,500	6,600
Seasonal Population	0	0	0	0	0	0
Residential	0.3832	0.4100	0.4200	0.4300	0.4400	0.4500
Commercial	0.0227	0.0230	0.0240	0.0250	0.0260	0.0270
Industrial	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Institutional	0.0070	0.0072	0.0073	0.0074	0.0075	0.0076
System Process	0.1953	0.2008	0.2009	0.2010	0.2020	0.2030
Unaccounted-for	0.0576	0.0503	0.0513	0.0524	0.0536	0.0547

Source Name	PWSID	Source Type	Additional Supply	Year Online	Year Offline	Type
South Camden Water and Sewer District	04-15-015	Ground	0.5000	2024		Regular
	2023	2030	2040	2050	2060	2070
Surface Water Supply	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ground Water Supply	0.8900	0.8900	0.8900	0.8900	0.8900	0.8900
Purchases	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Future Supplies		0.5000	0.5000	0.5000	0.5000	0.5000
Total Available Supply (MGD)	0.8900	1.3900	1.3900	1.3900	1.3900	1.3900
Service Area Demand	0.6658	0.6913	0.7035	0.7158	0.7291	0.7423
Sales	0.1732	0.1732	0.1732	0.1732	0.1732	0.1732
Future Sales		0.0000	0.0000	0.0000	0.0000	0.0000
Total Demand (MGD)	0.8390	0.8645	0.8767	0.8890	0.9023	0.9155
Demand as Percent of Supply	94%	62%	63%	64%	65%	66%

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 63 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. No Changes

Are there other demand management practices you will implement to reduce your future supply needs? No Changes

What supplies other than the ones listed in future supplies are being considered to meet your future supply needs? No Changes

How does the water system intend to implement the demand management and supply planning components above? No Changes

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:

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.