

Water Shortage Response Plan
Columbus County Water & Sewer Districts
I, II, III, IV & V

1. Purpose

The purpose of the Water Shortage Response Plan is to provide guidance to the Public Utilities staff, County Administration, and the customers of the Public Utilities Department during periods of drought and other events that result in a shortage of potable water. The Water Shortage Response Plan is intended to provide a framework of steps and activities to be implemented as conditions require.

2. Definitions

- A. **"Water Shortage"** - The result of climatic conditions causing drought or the result of a physical breach in the County's water supply system (i.e. mechanical failure, cut or broken water main, etc.) impeding the flow of potable or raw water supply.
- B. **"Water Production Capacity"** - The maximum volume of water that meets or exceeds state and federal standards that the water treatment process can produce during a 24 hour period.
- C. **"Stage 1 - Water Conservation Alert"** - An immediate water shortage declared by appropriate state and/or local officials when there are three (3) consecutive days when water demand causes all wells in each water district to be pumped more than twelve (12) hours per day.
- D. **"Stage 2 - Water Shortage Warning"** - An immediate water shortage declared by appropriate state and/or local officials or when there are two (2) consecutive days when water demand causes all wells in each water district to be pumped more than sixteen (16) hours per day.
- E. **"Stage 3 - Water Shortage Danger"** - An immediate water shortage declared by appropriate state and/or local officials or when there is one (1) day when water demand in each water district depletes the tank capacity to less than 50% and the wells are at full production for twenty-four (24) hours.

3. Responsibility for Declaration of a Water Shortage

Under the County's current Water Emergency Ordinance, the Director, or his authorized representative, is authorized to declare that a water emergency exists. Depending on the severity of the emergency, voluntary (Stage I) and mandatory (Stage 2 and Stage 3) staged water use restrictions as described in this ordinance shall be imposed upon all water users. As water shortage conditions become imminent, consultations will be conducted with the Public Utilities office personnel, County Administration, and County wholesale customers; however, this will not delay the initiation of water shortage stages as defined by the triggers.

4. Shortage Response Action Levels

A. Stage 1 - Water Shortage Emergency

A Stage 1 Water Shortage Emergency may be declared in the event of an immediate water shortage, as so declared by state and/or local officials, or will be declared when there are three (3) consecutive days when water demand causes all wells in each water district to be pumped more than twelve (12) hours per day. Water production capacity shall be defined as the maximum volume of water that meets or exceeds state and federal standards that the water treatment plant process can produce during a twenty-four (24) hour period. Water production capacity can vary depending on system component reliability and/or raw water conditions or availability.

B. Stage 2 - Water Shortage Emergency

A Stage 2 Water Shortage Emergency may be declared in the event of an immediate water shortage, as so declared by state and/or local officials, or will be declared when there are two (2) consecutive days when water demand causes all wells in each district to be pumped more than sixteen (16) hours per day. Water production capacity shall be defined as the maximum volume of water that meets or exceeds state and federal standards that the water treatment process can produce during a twenty-four (24) hour period. Water production capacity can vary depending on system component reliability and/or raw water conditions or availability.

C. Stage 3 - Water Shortage Emergency

A Stage 3 Water Shortage Emergency may be declared in the event of an immediate water shortage, as so declared by state and/or local officials, or will be declared when there is one (1) day when water demand in each water district depletes tank capacity to less than 50% and wells are at full production for twenty-four (24) hours. Water production capacity shall be defined as the maximum volume of water that meets or exceeds state and federal standards that the water treatment process can produce during a twenty-four (24) hour period. Water production capacity can vary depending on system component reliability and/or raw water conditions.

5. Notification Procedures

Upon declaration of each stage of the Water Shortage Emergency, the following methods may be used to inform County personnel, wholesale customers, County retail customers, and Industrial Customers.

A. Public Notice

The office personnel of the Public Utilities Department will draft a Public Notice announcing the Water Shortage Stage (Stage 1, Stage 2, or Stage 3) and the actions that water customers must take to comply with the Water Emergency Ordinance. The Public Notice will be provided by the Director, or his authorized representative, to all media outlets that serve Columbus County. The Public Notice will include phone numbers that customers may call with questions. Sample public notices for Stage I, 2, and 3 are attached hereto and incorporated herein by reference as Exhibits A, B, and C, respectively.

B. Wholesale Customer Notification

A copy of the Public Notice will be e-mailed or faxed to the Utilities Director for all of the County's Wholesale Customers. The Public Utilities Director, or his authorized representative, shall call each wholesale customer to confirm the receipt of the Public Notice and to respond to any questions about the notice.

C. Training County Staff

A copy of the Public Notice will be provided to the Water Distribution Division and the office personnel of the Columbus County Public Utilities Department, 612 North Madison Street, Whiteville, N.C. 28472. Depending on the stage severity, a list of possible questions with the recommended responses will be provided to the office personnel that are likely to receive calls from the public.

D. Direct Mailing to Customers

Depending on the stage severity, the County may elect to send a direct mailing to all County water customers. In the event of an immediate need to reduce water consumption, a notice will be sent to all water customers by reasonable means. An insert to the water bill would be the method of communication.

E. Newspaper Advertisement

Depending on the stage severity, the County may elect to purchase space in the local newspapers to inform the public. The advertisement would include the language included in the Public Notice.

6. Stage Conditions

The basis for the determination of a water emergency shall be the County's ability to provide potable water to its customers. For a Stage I Water Shortage Emergency, a declaration will be made when the potable water demand or the anticipated potable water demand causes all wells in each district to be pumped more than twelve (12) hours per day for more than three (3) consecutive days. If the available raw water supply or the treatment capacity is diminished, this level will be determined based upon the amount of raw water available or treatment capacity available.

For a Stage 2 Water Shortage Emergency, a declaration will be made when the potable water demand or the anticipated potable water demand causes all wells in each water district to be pumped more than sixteen (16) hours per day for more than two (2) consecutive days. If the available raw water supply or the treatment capacity is diminished, this level will be determined based upon the amount of raw water available or treatment capacity available.

For a Stage 3 Water Shortage Emergency, a declaration will be made when the potable water demand or the anticipated potable water demand in each water district depletes tank capacity to less than 50% and wells are at full production for twenty-four (24) hours for more than a twenty-four (24) hour period. If the available raw water supply or the treatment capacity is diminished, this level will be determined based upon the amount of raw water available or treatment capacity available.

The available raw water supply shall be determined by the capacity of the individual wells in each Water District. The flow is measured at each well.

7. Compliance with the Provisions of the Plan

Water plant personnel shall monitor potable water levels pumped into the system at the plant and at the booster pump stations to determine the overall demand. By comparing the flow records prior to issuance of the declaration, personnel can determine the level of compliance in each of the pressure zones associated with the booster pump station. Water distribution personnel will concentrate its efforts in those areas identified by the plants with the highest levels of apparent non-compliance. Distribution personnel will attempt to educate those property owners who are not in compliance with the declaration. After one warning, property owners would be fined for non-compliance. The Columbus County Public Utilities Department will work in conjunction with the Columbus County Sheriff's Department to enforce customer compliance with the Water Shortage Response Plan.

8. Plan Review and Adoption

The draft Water Shortage Response Plan will be provided to the office personnel of the Public Utilities Department for review and comment prior to passage by the Board of County Commissioners. After those comments have been addressed, copies will be provided to the County Manager. A draft copy of the plan will be submitted to North Carolina Department of Environment and Natural Resources (NC DENR) for review and approval. Once all comments have been received and addressed by the Public Utilities Director, County Manager and NC DENR, a final draft would be sent to the Board of Commissioners for review. The final document would be sent to the Board of Commissioners for approval, which would include an opportunity for public comment. Amendments to the plan would follow the same process with the Board of Commissioners approval required for all amendments. The County will evaluate the need to revise the Water Shortage Response Plan every five years to do so as needed.

9. Variations

All appeals for a variance must be submitted to the Director of Public Utilities, in writing. The Director of Public Utilities will review the request and the following criteria will be used to determine if a variance can be granted:

- A. Impact on the overall water conservation goals
- B. Potential property damage
- C. Potential alternative sources of water supply
- D. Volume of water to be consumed
- E. Duration of usage
- F. Number of similarly situated property owners

The Director of Public Utilities must provide a written determination on the request for a variance within three (3) working days of the receipt of the variance. If the request for a variance is denied, the property owner has the right to appeal the determination to the Board of Commissioners. The Board of Commissioners would hear the appeal at the next regularly scheduled meeting provided the appeal request is received at least seven (7) days in advance of the next meeting.

10. Evaluation

During the declaration of the Water Shortage Emergency, the office personnel of the Public Utilities Department will monitor the water usage. The pre-declaration usage will be compared to the post-declaration usage to determine an overall percentage reduction in demand. If the desired reduction in demand has not occurred, changes in the plan or enforcement of the plan will be recommended.

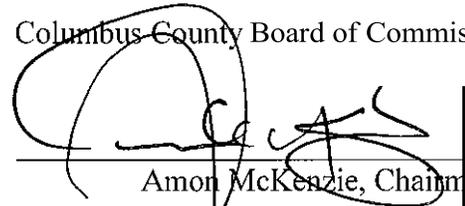
After the water shortage event has concluded, a post-event evaluation will be conducted. Changes in the Water Shortage Response Plan will be recommended to the Board of Commissioners based upon the problems and issues that were discovered during the event.

11. Effective Date

This Plan shall have an effective date as of the signature of the Chairman of the Columbus County Board of Commissioners.



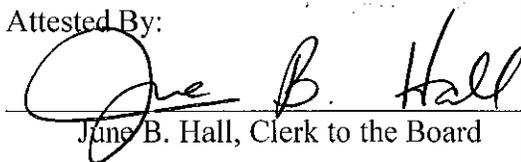
Columbus County Board of Commissioners


Amon McKenzie, Chairman

May 21, 2018

Date Signed:

Attested By:


June B. Hall, Clerk to the Board

The above Plan was passed by the Columbus County Board of Commissioners on May 21, 2018, upon motion by Commissioner Vice Chairman Burroughs, seconded by Commissioner Byrd and passed unanimously, and recorded in the minutes of said meeting, Book Number 2, Page _____.

Exhibit A
Stage 1 Water Shortage Emergency
Public Notice

Due to the current unprecedented demand for water, Columbus County Public Utilities has declared a Stage I Water Shortage Emergency for all Columbus County Public Utilities Customers. Since the Memorial Day holiday weekend, an average of .5 MGD has been consumed by Columbus County's retail customers, industrial customers, and the customers of municipalities served by the County through wholesale water agreements. The peak usage during this period was .7 MGD.

Most of the increase in water consumption during the recent months is attributable to an increase in demand for irrigation due to the drought conditions being experienced throughout the Southeast. During a Stage I Water Shortage Emergency, customers are asked to voluntarily conserve water.

Suggested Conservation Methods Include:

- ***Reduce Unnecessary Water Usage:***
Use shower for bathing rather than bathtub and limit shower to no more than five (5) minutes. Do not leave faucets running while shaving, brushing teeth, rinsing or preparing food. Limit hours of water-cooled air conditioners. Do not fill swimming or wading pools. Limit vehicle washing to a minimum.
- ***Irrigate During Off Peak Hours:***
Peak demand for water is between 6:00 A.M. to 10:00 AM. and 4:00 P.M. to 6:00 P.M. If irrigation is necessary for shrubbery or lawns, irrigate during off peak times.
- ***Check for Leaks and Repair Leaks Immediately:***
Leaks such as running toilets and dripping faucets should be repaired immediately to reduce water consumption.
- ***Do Not Wash Down Outside Areas Such as Driveways, Sidewalks, Patios, Etc.***
- ***Use Heavy Water-Using Appliances During Off Peak Hours:***
Appliances such as dishwashers and washing machines should be run during off peak times to reduce peak demand.
- ***Install Water Conservation Devices:***
Install Water Conservation Devices such as water saving showerheads and early closing flappers for toilets.

If the drought continues, and the demand for water continues to increase, the County may implement additional mandatory water conservation measures. If you have any questions regarding this public notice, please contact the Columbus County Public Utilities Department at (910)642-2828.

This Stage I Water Shortage Emergency does not affect water use restrictions issued by other utilities in Columbus County.

Exhibit B

Stage 2 Water Shortage Emergency

Public Notice

Due to the continued drought, Columbus County Public Utilities has now declared a Stage 2 Water Shortage Emergency Watch for all Columbus County Public Utilities Customers. Water levels in the Lower Cape Fear River have continued to decrease and the long-range forecast indicated less than normal rainfall amounts. The Governor has urged all state citizens to reduce water consumption during this period of extreme drought.

The demand for water continues at higher than normal levels due to an increase in demand for irrigation due to the drought conditions. During a Stage 2 Water Shortage Emergency watch, customers are prohibited from certain water consuming activities. All residents, businesses, and industries are urged to conserve water during this period.

The following activities are prohibited except as where noted:

- *Irrigation of residential and commercial landscaping including lawns, grass, shrubbery, trees, flower and vegetable gardens*

Exceptions

1. Irrigation using handheld hoses, containers, and drip irrigation systems will be allowed.
 2. Plant nurseries will be permitted to irrigate their products only.
 3. State and County Licensed Landscape Contractors may water newly installed landscaping by handheld hoses or drip irrigation systems under a written warranty.
 4. Golf Courses are allowed to irrigate using water from storm water ponds, wastewater effluent and irrigation wells only.
- *Washing of any type of mobile equipment including cars, trucks, trailers, boats, airplanes, etc.*

Exceptions

1. Businesses that provide car washing or detailing services.
 2. Automobile dealers in preparation of sales or delivery.
 3. Cleaning of emergency vehicles, garbage trucks, and similar vehicles if needed to preserve public health or vehicle function.
- *Using water to wash outside surfaces such streets, driveways, parking lots, patios, service station aprons, exterior of office buildings, homes, or apartments*

Exceptions

1. Businesses that provide a service of washing the exterior of homes and other buildings.

- *Using water for any ornamental fountain, pool, pond, etc.*
- *Serving drinking water in restaurants unless specifically requested by the customer*
- *Using potable water for dust control*
- *Filling swimming or wading pools, either newly constructed or previously drained*

Exceptions

I. Make up water for pools in operation will be allowed

- *Using water-cooled air conditioners or other equipment, in which cooling water is not recycled, unless there are health or safety concerns*
- *Using water from a public or private fire hydrant for any reason other than to suppress a fire or other public emergency, or as authorized by the Director, or his authorized representative*
- *Intentionally wasting water*
- *Commercial and Industrial Water Customers shall achieve mandatory reductions in water usage through whatever means are available. A minimum reduction of twenty percent (20%) shall be the target; however, a greater target reduction percentage may be required depending on the severity of the Water Shortage Emergency. Compliance with the reduction target shall be determined by the Director or his authorized representative. Variances to the target reduction may be granted by the Director or his authorized representative, to designated Public Health facilities.*

Property owners that use wells for potable water and/or irrigation are also urged to conserve water during this period of drought but are not subject to these restrictions.

Violators are subject to a civil citation of \$500.00 per offense per day.

Repeat offenders may have their water service disconnected.

To report violations of this Water Shortage Emergency Watch, please contact the Columbus County Public Utilities Department at (910) 642-2828 or e-mail the County at hnobles@columbusco.org. Please provide the time, date, and violation location.

Exhibit C
Stage 3 Water Shortage Emergency
Public Notice

Due to an immediate water shortage, Columbus County Public Utilities has now declared a Stage 3 Water Shortage Emergency Warning for all Columbus County Public Utilities Customers. Water levels in the Lower Cape Fear River have continued to decrease and the long-range forecast indicated less than normal rainfall amounts. The Governor has urged all state citizens to reduce water consumption during this period of extreme drought.

The demand for water continues at higher than normal levels due to an increase in demand for irrigation due to the drought conditions. During a Stage 3 Water Shortage Emergency Warning, the following activities shall be prohibited, in addition to the activities prohibited under the Stage 2 Water Shortage Emergency:

The following activities are prohibited except as where noted:

- *Irrigation of residential and commercial landscaping including lawns, grass, shrubbery, trees, flower and vegetable gardens*

Exceptions

1. Irrigation using handheld hoses, containers, and drip irrigation systems will be allowed.
2. Plant nurseries will be permitted to irrigate their products only.
3. State and County Licensed Landscape Contractors may water newly installed landscaping by handheld hoses or drip irrigation systems under a written warranty.
4. Golf Courses are allowed to irrigate using water from storm water ponds, wastewater effluent and irrigation wells only.

- *Washing of any type of mobile equipment including cars, trucks, trailers, boats, airplanes, etc.*

Exceptions

- I. Businesses that provide car washing or detailing services.
2. Automobile dealers in preparation of sales or delivery.
3. Cleaning of emergency vehicles, garbage trucks and similar vehicles if needed to preserve public health or vehicle functions.

- *Watering any vegetable garden except by handheld hoses, containers, or drip irrigation systems.*
- *Commercial and Industrial Water Customers shall achieve mandatory reductions in water usage through whatever means are available. A minimum reduction of fifty percent (50%) shall be the target; however, a greater target reduction percentage may be required depending the severity of the Water Shortage Emergency. Compliance with the reduction target shall be determined by the Director or his authorized representative. Variances to the target reduction may be granted by the Director or his authorized representative, to designated Public Health facilities.*
- *In the event that the prohibition of the activities listed above is not sufficient to maintain an adequate supply of water for fire protection, all use of water for purposes other than maintenance of public health and safety shall be prohibited. Residential water use shall be limited to the amount necessary to sustain life through drinking, food preparation, and personal hygiene.*

Property owners that use wells for potable water and/or irrigation are also urged to conserve water during this period of drought, but are not subject to these restrictions.

Violators are subject to a civil citation of \$500.00 per offense per day.

Repeat offenders may have their water service disconnected.

To report violations of this Water Shortage Emergency Watch, please contact the Columbus County Public Utilities Department at (910) 642-2828 or e-mail the County at hnobles@columbusco.org. Please provide the time, date, and violation location.