

## **WATER SHORTAGE RESPONSE PLAN TOWN OF ROBERSONVILLE, NORTH CAROLINA**

**NOTE: This plan should be updated periodically to keep system specific information current. The thresholds (triggers) for declaration of phased conservation within this plan should be updated when significant changes to the water system occur.**

### **1.0 INTRODUCTION**

The purpose of this plan is to provide specific information to those responsible for the declaration of official phases of Water Supply Shortage situations and for the implementation of voluntary, mandatory, and emergency water conservation measures and restrictions via the Water Shortage Response Ordinance (WSRO). This Water Shortage Response Plan (WSRP) includes the following Sections:

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This document should be accessible to all personnel responsible for water shortage response at all times. In addition this document should be made available to the North Carolina Public Water Supply (NCPWS) upon request. In the event that the information below should change or become dated, this WSRP should be updated immediately.

### **2.0 RESPONSIBLE AUTHORITY FOR ENACTING THE WSRP**

The authority responsible for enacting the WSRP is the governing body of the Town of Robersonville. In the event that water demand on the Town of Robersonville water system may exceed supply and transmission capabilities, the Director of Public Utilities may recommend to the governing body of the Town of Robersonville that voluntary water conservation measures be implemented via WSRO. In the event that voluntary conservation measures fail to relieve the demand on the water system, the Town of Robersonville may implement mandatory or emergency water conservation measures via WSRO.

All municipalities, water corporations and companies purchasing water from the Town of Robersonville will adopt and enforce the WSRP for the Town of Robersonville as a condition of water sales agreements.

### **3.0 PUBLIC NOTIFICATION OF WATER USE POLICIES AND RESTRICTIONS**

Public information regarding voluntary, mandatory, and emergency conservation policies, restrictions, and ordinance violation penalties should be concise, accurate, current, and easily accessible to the general public affected by this WSRP. Bulk water purchasers such as Martin County, Town of Parmele and the Town of Everetts shall be notified independently of the Press as various stages of the plan are implemented or canceled. Press releases should be done in "plain" and "easy to understand" language. Multiple public outreach options should be used. The same

media sources should be used for all phase updates during a period of water shortage. Options may include, but are not limited to:

- Newspaper Ads
- TV Ads (local news, interviews)
- Radio (public service announcements)
- Independent Mailings to Major Users
- Water Bill Stuffers
- School Presentations
- Flyers/Handouts
- Signs and Posters

See Section 5.0 for Conservation Measures and Restrictions. See WSRO Section 5.0 for ordinance violation penalties.

The WSRP shall be made available to the public for review and comment 30 days prior to adoption by the governing board of the Town of Robersonville.

#### **4.0 IDENTIFICATION OF WATER USE CLASSIFICATIONS**

##### **Class 1: Essential Water Uses**

The following drinking water uses have been determined to be Essential Water Uses of potable water provided by the Town of Robersonville in the event of a Water Supply Shortage.

###### ***Domestic Use:***

- Water necessary to sustain human life and the lives of domestic pets, and to maintain minimum standards of hygiene and sanitation

###### ***Health Care Facilities, Assisted Living Homes, Retirement Homes:***

- Patient care and rehabilitation

###### ***Public Use:***

- Firefighting, including testing and drills by the fire department if performed in the interest of public safety and if approved by the governing body of the Town of Robersonville
- Flushing of Sewers and Hydrants as needed to ensure public health and safety and if approved by the governing body of the Town of Robersonville

##### **Class 2: Socially or Economically Important Uses of Water**

The following drinking water uses have been determined to be Socially or Economically Important Uses of Water provided by the Town of Robersonville in the event of a Water Supply Shortage.

###### ***Domestic Use: All Domestic Uses Other Than Those Included in Classes 1 and 3:***

- Home water use including kitchen, bathroom and laundry use
- Minimal watering of vegetable gardens
- Watering of trees where necessary to preserve them

###### ***Commercial, Agricultural, Industrial and Institutional Uses:***

- Outdoor commercial watering (public or private) using conservation measures and to the extent that sources of water other than fresh water are not available to use
- Irrigation for commercial vegetable gardens and fruit orchards or the maintenance of livestock
- Watering by commercial nurseries at a minimum level necessary to maintain stock
- Water use by arboretums and public gardens of national, state, or regional significance where necessary to preserve specimens
- Use of fresh water at a minimum rate necessary to implement vegetation following earth-moving, where such vegetation is required by law or regulation
- Watering of golf course greens

- Filling and Operation of Swimming Pools:
  - Residential pools which serve more than 25 dwelling units
  - Pools used by health care facilities for patient care and rehabilitation
  - Municipal pools
- Commercial car and truck washes
- Commercial Laundromats
- Restaurants, Clubs, and Eating Places
- Air Conditioning:
  - Refilling for start up at the beginning of the cooling season
  - Make-up of water during the cooling season
  - Refilling specifically approved by health officials and the municipal governing body, where the system has been drained for health protection or repair purposes
- Schools, Churches, Motels/Hotels and Similar Commercial Establishments
- Manufacturing/Industrial Processes critical to operation of facilities

### **Class 3: Non-Essential Uses of Water**

The following drinking water uses have been determined to be Non-Essential Uses of Water provided by the Town of Robersonville in the event of a Water Supply Shortage.

#### ***Ornamental Purposes:***

- Fountains, reflecting pools, and artificial waterfalls

#### ***Outdoor Non-Commercial Watering (public or private):***

- Gardens (except vegetable gardens), lawns, parks, golf courses (except greens), playing fields and other recreational areas
- Filling and operation of recreational swimming pools which serve fewer than 25 dwellings
- Non-commercial washing of motor vehicles
- Serving water in restaurants, clubs, or eating places except by specific request
- Air Conditioning: refilling cooling towers after draining except as specified in Class 2

#### ***Public Use:***

- Fire Hydrants: any purpose, including use of sprinkler caps and testing fire apparatus and for fire department drills, except as listed in Class 1
- Flushing of Sewers and Hydrants except as listed in Class 1

## **5.0 CONSERVATION MEASURES AND RESTRICTIONS**

The general public should be informed of the following Conservation Measures for Indoor, Outdoor, Health Care Facility, Assisted Living, Retirement Home, Institutional and Industrial Use:

### **Phase 1: Voluntary Conservation Measures**

When the Town of Robersonville declares that Voluntary Conservation conditions exist, the general public should conserve as much water and shall be encouraged to adhere to the following measures:

#### ***Indoor Use:***

- Use dishwashers only when they are full.
- The use of disposable and biodegradable dishes is encouraged.
- Use washing machines only when full loads of laundry are to be washed.
- Turn off faucets while brushing teeth, shaving, washing dishes, etc.

- Reduce water used per flush by installing toilet tank displacement inserts. A plastic jug may often be used as an alternative. DO NOT USE BRICKS - they disintegrate when soaked and the resulting grit hinders closing of the flap valve.
- Do not use the toilet as a garbage disposal.
- Use sink and tub stoppers to avoid wasting water.
- Keep a bottle of chilled water in the refrigerator for drinking, to avoid running water until it's cold.
- Fix leaky faucets, toilets, and water using appliances. Faucets can usually be fixed cheaply and quickly by replacing washers.
- Take shorter showers and shallow baths. Shorter showers are recommended over baths.
- Don't use a garbage disposal.
- Use non-phosphate detergent and save laundry water for lawns and plants.
- Adapt plumbing with flow-restricting or other water-saving devices. These are usually inexpensive and easy to install.
- Limit hours of operation of water cooled air conditioners.

### ***Outdoor Use:***

#### Lawns:

- Limit lawn and garden watering to that which is necessary for plants to survive.
- Water before 10:00 a.m. to reduce evaporation.
- Water only when lawn shows signs of wilt. Grass that springs back when stepped on does not need water.
- Water thoroughly, not frequently: long enough to soak roots. A light sprinkling evaporates quickly and encourages shallow root systems. Water slowly to avoid runoff.
- Don't let the sprinkler run any longer than necessary. Use an alarm clock or stove timer to remind you to shut off sprinklers that don't have timers.
- Allow maximum of one inch of water per week on your lawn. To measure, place cake tins outside to collect rain and water from sprinklers.
- Use pistol-grip nozzles on hoses to avoid waste when watering flowers and shrubs.
- Aerate lawns by punching holes 6 inches apart. This allows water to reach roots rather than run off surfaces.
- Position sprinklers to water the lawn, not the pavement.
- Keep sprinkler heads clean to prevent uneven watering.
- Adjust hose to simulate a gentle rain. Sprinklers that produce a fine mist waste water through evaporation.
- Know how to turn off an automatic sprinkler system in case of rain.

#### Vegetables and Flower Gardens:

- Water deeply, slowly and weekly. Most vegetables require moisture to a depth of 6 to 8 inches.
- Keep soil loose so water can penetrate easily.
- Keep weeds out to reduce competition for water.
- Put the water where you want it and avoid evaporation by using soil-soakers or slow-running hoses, not sprinklers.

#### Trees and Shrubs:

- Water deeply using a soil-soaker or drip-irrigation.
- Water only when needed. Check the depth of soil dryness by digging with a trowel.
- Mulch to reduce evaporation. A 2" to 3" layer of wood chips, pine needles, grass clippings, or straw keeps the soil cool in summer.
- Dig troughs around plants to catch and retain water.
- Water trees growing in full sun more often than those in shade.
- Do not use sprinklers. Apply water directly at base.
- Do not fertilize during the summer. Fertilizing increases a plant's need for water.
- Postpone planting until fall or spring when there is generally less need for water.
- Install trickle-drip irrigation systems close to the roots of your plants. By dripping water slowly, the system doesn't spray water in to the air. Use soil probes for large trees.

- Water when cloudy.

***Other Use:***

- Limit car washing to a minimum.
- Do not allow children to play with hose or sprinklers.
- Temporarily delay new landscape work.
- Do not wash outside areas such as sidewalks, patios, parking lots, etc.
- Catch rainfall for watering by placing containers under drain spouts.
- Use leftover household water if available
- Determine the amount of water being used outdoors by comparing water bills for summer and winter.

***Health Care Facility, Assisted Living, and Retirement Home Use:***

- Reduce laundry usage or services by changing linens, etc. only when necessary to preserve the health of patients or residents.
- Use disposable food service items.

***Institutional and Industrial Use:***

- Identify and repair all leaky fixtures and water-using equipment. Give special attention to equipment connected directly to water lines, such as processing machines, steam-using machines, washing machines, water-cooled air conditioners, and furnaces.
- Assure that valves and solenoids that control water flows are shut off completely when the water-using cycle is not engaged.
- Adjust water-using equipment to use the minimum amount of water required to achieve its stated purpose.
- Shorten rinse cycles for laundry machines as much as possible; implement lower water levels wherever possible.
- For processing, cooling, and other uses, either re-use water or use water from sources that would not adversely affect public water supplies.
- Install toilet tank displacement inserts; place flow restrictors in shower heads and faucets; close down automatic flushes overnight.
- Install automatic flushing valves to use as little water as possible or to cycle at longer intervals.
- Place water-saving posters and literature where employees, students, patients, customers', etc. will have access to them.
- Check meters on a frequent basis to determine consumptive patterns.
- Review usage patterns to see where other savings can be made.

**Phase 2: Mandatory Conservation Measures and Restrictions**

When the Town of Robersonville declares that Mandatory Conservation conditions exist, the general public shall be required to adhere to the following restrictions, in addition to the voluntary guidelines already in effect:

- All Class 3 water uses are banned during this phase.
- No residential washing of cars or any other type of automobiles or transport equipment.
- No washing of outside areas such as sidewalks, driveways, patios, streets, service station aprons, parking lots, office buildings, homes.
- Watering of lawns will be permitted only once per week per customer and only from the hours of 5:00 AM to 6:00 AM.
- Vegetable gardens and food trees should be given minimal amounts of water on an individual basis only.
- Do not water inedible plants.
- Do not use sprinklers.

### **Phase 3: Water Shortage Emergency Measures and Restrictions**

When the Town of Robersonville declares that Water Shortage Emergency conditions exist, the general public shall be required to adhere to the following restrictions, in addition to the voluntary and mandatory guidelines already in effect:

- All Class 2 and Class 3 water uses are banned during this phase.
- Turn off shower while soaping up.
- Do not use water outside for any use other than drinking or emergencies such as a fire.
- Use of disposable eating utensils and plates is strongly encouraged for home use and at all eating establishments.

## **6.0 DECLARATION OF PHASED CONSERVATION MEASURES AND RESTRICTIONS**

### **Phase 1: Declaration of Voluntary Conservation**

Voluntary Conservation shall be initiated when a potential Water Supply Shortage exists, which is indicated when:

Daily Use is greater than the 18 hour production of the wells 1 day within a 30 day period  
or

The pumping water levels are below the top of the aquifer.

When the governing body of the Town of Robersonville finds that a potential Water Supply Shortage is indicated, it shall be empowered to declare by adoption of an ordinance (WSRO) that Voluntary Conservation conditions exist, and that the Director of Public Utilities, on a daily basis, monitors the supply and demand upon that supply. In addition the governing body is authorized to call upon all water customers to employ voluntary water conservation measures to limit water use (especially Class 3 uses) and eliminate the waste of water. This resolution shall be published in a newspaper of general circulation in the area which qualifies under GS 1-597, and may be publicized through the general news media or any other appropriate method for making such resolutions public. A Water Shortage Advisory shall be issued.

During Phase 1 water use restrictions, the reduction goal for system wide daily average use will be 5%.

### **Phase 2: Declaration of Mandatory Conservation**

Mandatory Conservation shall be initiated when water supplies are consistently below seasonal averages and the continued decline of water supplies would result in a Water Supply Shortage due to an inadequate water supply to meet normal needs. This is indicated when:

Daily Use is greater than the 18 hour production of the wells for 2 days or more within a 30 day period or

The pumping water levels are below the top of the aquifer for a period greater than 30 days or

Equipment failure, facility failure, or contamination in raw water quality results in discontinued use of one or more groundwater wells, resulting in pumping times greater than 18 hours for the remaining wells for a period less than 30 days.

When the governing body of the Town of Robersonville finds raw water supplies to be consistently below seasonal averages, and if they continue to decline and may not be adequate to meet normal needs, it shall be empowered to declare by adoption of an ordinance (WSRO) that Mandatory Conservation conditions exist. The governing body of the Town of Robersonville shall continue to encourage voluntary water conservation measures defined under the Voluntary Conservation declaration, and further shall impose a ban on all Class 3, Non-Essential Uses water uses for the duration of the shortage until it is declared ended by ordinance of the governing board. Publication of these ordinances shall follow the provisions declaration in Section 3.0 of this document. A Water Shortage Alert shall be issued.

During Phase 2 water use restrictions, the reduction goal for system wide daily average use will be 15%.

### **Phase 3: Declaration of a Water Shortage Emergency**

A Water Shortage Emergency shall be initiated when raw water supplies are below the level necessary to meet normal needs and a serious Water Supply Shortage exists. This is indicated when:

Daily Use is greater than the 18 hour production of the wells for 4 days or more within a 30 day period or

The pumping water levels are below the top of the aquifer for a period greater than 90 days or

Equipment failure, facility failure, or contamination in raw water quality results in discontinued use of one or more groundwater wells, resulting in pumping times greater than 18 hours for the remaining wells for a period greater than or equal to 30 days.

When the governing body of the Town of Robersonville finds that raw water supplies are below the level necessary to meet normal needs and a serious Water Supply Shortage exists, it shall be empowered to declare by adoption of an ordinance (WSRO) that a Water Shortage Emergency exists. Class 1, Essential Uses shall be identified, in specific, as targets for voluntary conservation initiatives. Also, all Class 2, Socially or Economically Important uses shall be banned in addition to the Class 3, Non-Essential Uses. These restrictions shall continue until the emergency is declared ended by ordinance of the governing body. Publication of these ordinances shall follow the provisions in Section 3.0 of this document. A Water Shortage Emergency shall be issued.

During Phase 3 water use restrictions, the reduction goal for system wide daily average use will be 25%.

### **Variances**

Customers seeking variance from the conservation requirements in the WSRP should submit in writing to the Town of Robersonville a request for variance, with the following items:

Name;  
Address;  
Utilities account number;

Date of Request;  
Proposed duration for requested variance;  
Detailed explanation for requested variance; and  
Justification for approval of the requested variance.

Variances shall be evaluated by the Director of Public Works. The Director of Public Works will then make a recommendation to the Governing Body of the Town of Robersonville. The governing body of the Town of Robersonville shall make the final decision within 30 days after receipt of the request.

## **7.0 EVALUATION AND REVISION**

### **Evaluation of Plan Effectiveness**

In order to maintain the effectiveness and sustainability of the Water Shortage Response Plan it is imperative to maintain accurate water use records. Water use records should be collected and monitored prior to, during, and after implementation of conservation restrictions.

In evaluating the effectiveness of the Water Shortage Response Plan, the Public Works Director will compare historical use data to determine if the reduction amount is accurate. If reduction amounts are inadequate the WSRP should be updated with further conservation restrictions and triggers that initiate water conservation requirements earlier.

The Public Works Director will monitor the frequency that the WSRP conservation restrictions are implemented, and recommend revisions to the governing board to correct for inappropriate water restrictions.

The Public Works Director will monitor the water transmission system and water use records to determine if events outside of the scope of the WSRP require implementation of the water conservation methods in the WSRP. The triggers activating water conservation restrictions should be updated to reflect these observations.

The Public Works Director will record citations and violations of the water conservation requirements. If citations and violation numbers are excessive the WSRP may be revised to show additional public announcements, or to increase enforcement as described in Section 4.0 of the WSRP Ordinance.

### **Revisions to the Water Shortage Response Plan**

In the event that evaluation of the WSRP indicates a revision is needed the Public Works Director shall make recommendation to governing body of the Town of Robersonville. The governing body of the Town of Robersonville will then consider revisions to the WSRP based on the observations and data provided by the Public Works Director. The Town of Robersonville shall adequately notify the public of any approved WSRP amendments.

The WSRP shall be updated accordingly as significant additions or modifications to the water treatment or distribution system require modifications to Sections 5.0 and 6.0 of this document, and after implementation of any emergency water restrictions.

At a minimum, the WSRP shall be reviewed by the governing body every 5 years, and updated as necessary.



## **8.0 EFFECTIVE DATES AND AUTHORIZATION OF PLAN**

This plan shall take effect immediately upon adoption or passage by the governing body of the Town of Robersonville.

This plan will remain in effect until terminated by action of the governing body of the Town of Robersonville.