

# MUNICIPAL WATER CONSERVATION PLAN FOR POST ROCK RWD

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## INTRODUCTION

The primary objectives of the Water Conservation Plan for Post Rock RWD are to develop long-term water conservation plans (Long-Term Water Use Efficiency Section) and short-term water emergency plans (Drought Response Section) to assure the District customers of an adequate water supply to meet their needs. The efficient use of water also has the beneficial effect of limiting or postponing water distribution system expansion and thus limiting or postponing the resultant increases in costs, in addition to conserving the limited water resources of the State of Kansas.

Post Rock RWD has undertaken a number of steps to ensure a dependable water supply for our customers during the past 30 years. Post Rock R.W.D.'s sole source of water is Kanopolis Lake which is fed by the Smoky Hill River. Post Rock R.W.D.'s treatment plant currently has the capacity to produce 1,224,000 gallons of water per day which is currently limited by high service pump and pipeline capacity. Water is stored in a 200,000 gallon underground clearwell for distribution to the system.

The finished product is distributed to Post Rock's customers through about 1,500 miles of pipeline ranging from 12" to 1 1/2" in size. The District has 8 water towers.

Post Rock RWD believes that our Municipal Water Conservation Plan represents an additional major step in ensuring our customers of a dependable water supply in future years.

## LONG-TERM WATER USE EFFICIENCY

### Water Use Conservation Goals

Post Rock RWD used 145 gallons per person per day (GPCD) in 2009. This GPCD figure included:

Water sold to residential/commercial customers; and  
Water lost by leaks in the water distribution system.

However, the GPCD figure does not include municipally supplied water for industries that use over 200,000 gallons per year. According to Figure 1, shown in the [2009 Kansas Municipalities Water Use Publication](#), our District is located in Region 5. From this publication it was determined that our District GPCD water use was 145, which was 5 percent above the region average of 138 GPCD among cities in Region 5 during 2009. The District desires to set a water use conservation goal for usage not to exceed 147 GPCD based on the regional average of the last five years (2005 thru 2009). Our District anticipates not exceeding this goal by carrying out the specific actions that are outlined in our plan.

## **Water Conservation Practices**

This subsection of the plan summarizes the current education, management and regulation efforts that relate to the long-term conservation of water in the District. Specific practices that will be undertaken to conserve water are listed and a target date to begin each practice is also shown.

### **Education**

The District water bills show the total number of gallons of water used during the billing period and the amount of the bill. Water conservation tips are not normally provided with the water bills, however they are provided in the newsletter. The District has not provided information on water conservation to the local news media on a regular basis and has not encouraged the Board of Education and teachers to become involved in water conservation presentations in schools.

The District has chosen the following conservation practices and target dates for the Education Component of the Long-Term Water Use Efficiency Section of our Water Conservation Plan.

<b>Education Conservation Practices to be Taken</b>	<b>Target Date</b>
1. Water conservation tips will be provided with quarterly updates posted on website.	Implemented

### **Management**

Post Rock RWD has water meters on all water supplies and water pumped to the distribution system. Any new supply will have an individual meter on each source of supply. These meters are read on a daily basis. The meters are checked for accuracy whenever the water superintendent believes the meters are not operating correctly.

All residential / commercial customers have water meters installed. Customer meters are scheduled for an accuracy check and possible repair or replacement upon receiving a request to do so from the customer.

Post Rock RWD reads each customer's water meter annually. It is not feasible for the District to read customer meters more frequently due to the size of the District.

Water leaks from the District public water distribution system are repaired when customers report significant leaks from the water mains or are located by District Personnel. Water pressure is not checked unless customers complain that their water pressure is too low. Loss from water towers through the night hours is monitored and when out of line, leaks are tracked down and repaired.

The water rate structure for the District was passed on January 1, 2010. The minimum monthly water bill is \$34.50 for residential customers, no water included in the minimum. Water use in excess of 1,000 gallons through 20,000 gallons is charged \$8.06 per 1,000 gallons. Over 20,000 gallons is charged \$ 5.23 per 1,000 gallons. Wholesale rates are \$5.23 per 1,000 gallons.

Post Rock RWD realizes that much greater emphasis must be placed on obtaining accurate measurement of water use at our source and at customer meters and that a water use records system must be developed that can be used to more effectively and efficiently manage the District public water distribution system. For that reason, Post Rock RWD has chosen the following conservation practices and target dates for the Management component of the Long-Term Water Use Efficiency Section of our Water Conservation Plan.

Management Conservation Practices to be Taken	Target Date
1. All source water will have meters installed and the meters will be repaired or replaced within two weeks when malfunctions occur.	Implemented
2. Meters for source water will be tested for accuracy at least once every three years. Each meter will be repaired or replaced if its test measurements are not within industry standards (such as AWWA standards).	Implemented
3. A water utility will implement a water management review, which will result in a specified change in water management practices or implementation of a leak detection and repair program or plan, whenever the amount of unsold water (amount of water provided free for public service, used for treatment purposes, water loss, etc.) exceeds 20 percent of the total source water for a four month time period.	Implemented

### **Regulation**

Post Rock RWD does not have any water conservation regulations in effect at the present time. Because of our ability to supply water during normal periods, regulatory controls on water use are included only in the Drought Response section of this plan and water drought/emergency resolution where they constitute the primary means for conserving water during a supply shortage.

Post Rock RWD does not have a plumbing code, but has not felt the need to incorporate mandatory use of water conservation units in the plumbing code. The enforcement of any regulations to require use of any water conservation plumbing measures would be very difficult. Most new homes and/or remodeling projects do include the use of water conservation toilets and faucets.

## **DROUGHT RESPONSE**

Post Rock RWD addresses its short-term water shortage problems through a series of stages based on conditions of supply and demand with accompanying triggers, goals and actions. Each stage is more stringent in water use than the previous stage since water supply conditions are more deteriorated. The Board of Directors of the District, or, if authorized by the Board, the District Manager shall implement the appropriate conservation measures.

### **Stage 1: Water Watch**

#### **Goals**

The goals of this stage are to heighten awareness of the public on water conditions and to maintain the integrity of the water supply system.

#### **Triggers**

This stage is triggered by any one of the following conditions:

1. The Kansas Water Office has issued a Stage 1 Water Watch (for water marketing customers) based on the remaining water marketing storage in Kanopolis Lake;
2. The District's system storage has fallen below 85 percent capacity and is unable to recover storage within 3 consecutive days.
3. Demand for water exceeds 1,101,600 gallons per day in the District for five consecutive days.

#### **Education Actions**

1. The District will make occasional news releases to the local media describing present conditions and indicating the water supply outlook for the upcoming season.
2. Previous months summaries of precipitation, temperature, water levels and storage will be made public at the beginning of each month.

#### **Management Actions**

1. The District will monitor its use of water and will curtail activities such as hydrant flushing.
2. Leaks will be repaired within 48 hours of detection.
3. Leaking valves and hydrates shall be repaired immediately

## **Regulation Actions**

The public will be asked to curtail some outdoor water use and to make efficient use of indoor water, i.e. wash full loads, take short showers, don't let faucets run, etc.

### **Stage 2: Water Warning**

#### **Goals**

The goals of this stage are to reduce peak demands by 20 percent and to reduce overall weekly consumption by 10 percent.

#### **Triggers**

This stage is triggered by any one of the following conditions:

1. The Kansas Water Office has issued a Stage 2 Water Warning (for water marketing customers) based on the remaining water marketing storage in Kanopolis Lake;
2. The District's system storage has fallen below 50 percent capacity and is unable to recover within 3 days;
3. Demand for water exceeds 1,162,800 gallons per day in the District for five consecutive days.

#### **Education Actions**

1. The District will make weekly news releases to the local media describing present conditions and indicating the water supply outlook for the upcoming week.
2. Previous week summaries of precipitation, temperature, water levels and storage will be available to the public.
3. Water-saving tips will be posted on the District's website.

#### **Management Actions**

1. The District water supplies will be monitored daily.
2. Leaks will be repaired within 24 hours of detection.
3. The District will curtail its water usage, including watering of District grounds and washing of vehicles.
4. Intakes will be adapted to operate with low flows.

## **Regulation Actions**

1. An odd/even lawn watering system will be imposed on District residents. Residents with odd-numbered benefit unit will water on odd days; even benefit unit will water on even days.

2. Outdoor water use, including lawn watering and car washing will be restricted to before 10:00 am and after 9:00 pm.
3. Golf courses will restrict watering to tees and greens after sunset.
4. Refilling of swimming pools will be allowed one day a week after sunset.
5. Outdoor watering will be restricted to use of a hand-held hose or bucket only, excluding livestock.
6. Excess water use charges for usage of water over the amount used in the winter will be considered.
7. Waste of water will be prohibited.

### **Stage 3: Water Emergency**

#### **Goals**

The goals of this stage are to reduce peak demands by 50 percent and to reduce overall weekly consumption by 25 percent.

#### **Triggers:**

This stage is triggered by any one of the following conditions:

1. The District's storage has fallen below 40 percent capacity and is unable to recover within 3 days;
2. Treatment plant operations are at 40 percent capacity or more for three consecutive days;
3. The Kansas Water Office has issued a Stage 3 Water Emergency (for water marketing customers) based on the remaining water marketing storage in Kanopolis Lake;
4. Demand for water exceeds 1,224,000 gallons per day in the District for five consecutive days

#### **Education Actions**

1. Previous days summaries of precipitation, temperature, water levels and storage will be made available to the public each day.
2. The District will hold public meetings to discuss the emergency, the status of the District water supply and further actions, which need to be taken.

#### **Management Actions**

1. The District water supplies will be monitored daily.
2. Leaks will be repaired immediately of detection.
3. The District will seek additional emergency supplies from other users, the state or the federal government.



## **Regulation Actions**

1. Outdoor water use will be banned, excluding critical livestock watering.
2. Waste of water will be prohibited.

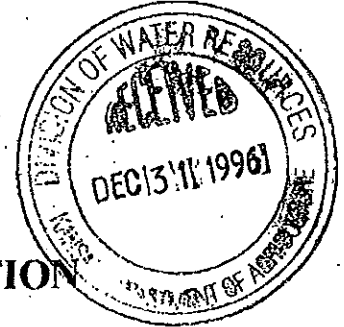
## **PLAN REVISION, MONITORING & EVALUATION**

Post Rock RWD will establish a monthly management practice of reviewing monthly totals for water production, residential/commercial sales, water provided free-of-charge, and “unaccounted for water”. Problems noted during the monthly review will be solved as soon as possible.

Post Rock RWD Municipal Water Conservation Plan will be reviewed during the month of April each year and on a more frequent basis during drought or other water shortage conditions. If the water conservation GPCD goals for the previous year are not met, then the District will review the data collected from the previous year in relationship to the status and effectiveness of the conservation practices that are outlined in our plan and will provide a status report to the Division of Water Resources which will also include any additional water conservation practices that may need to be taken in order for the District to achieve and maintain its water use conservation GPCD goals.

**POST ROCK RURAL WATER DISTRICT**

103 N. DOUGLAS  
ELLSWORTH, KANSAS 67439  
913 472-4486



**WATER DROUGHT/EMERGENCY RESOLUTION**

**Resolution No. 22**

A Resolution authorizing the declaration of a water watch, warning or emergency; establishing procedures for voluntary and mandatory conservation measures; authorizing the issuance of administrative regulations; and prescribing certain penalties.

Be it Resolved by the Governing Body of the Post Rock Rural Water District.

Section 1. Purpose. The purpose of this resolution is to provide for the declaration of a water supply watch, warning or emergency and the implementation of voluntary and mandatory water conservation measures throughout the Post Rock Rural Water District (PRRWD) in the event such a watch, warning or emergency is declared.

Section 2. Definitions:

(a) "Water" as the term issued in this resolution shall mean water available to the PRRWD for treatment by virtue of its water rights or any treated water introduced by the PRRWD.

(b) "Customer" as the term is used in this resolution shall mean the consumer of record using water for any purpose from the PRRWD's water distribution system and for which a regular charge is made.

(c) "Waste of water" as the term is used in this resolution, includes, but is not limited to:

- (1) permitting water to escape down a gutter, ditch, or other surface drain;
- or
- (2) failure to repair a controllable leak of water due to defective plumbing.

(d) The following classes of uses of water are established:

Class 1

Water used for outdoor watering, either public or private, for gardens, lawns, trees, shrubs, plants, parks, golf courses, playing fields, swimming pools or other recreational areas; or the washing of motor vehicles, boats, trailers, or the exterior of any buildings or structures.

Class 2

Water used for commercial or industrial purposes, including agriculture: except water actually necessary to maintain the health and personal hygiene of bona fide employees while such employees are engaged in the performance of their duties at their place of employment.

Class 3

Domestic usage, other than that which would be included in either classes 1 or 2.

Class 4

Water necessary only to sustain human life and the lives of domestic pets and maintain standards of hygiene and sanitation.

Section 3. Declaration of Water Watch. Whenever the governing body of the PRRWD finds that conditions indicate that the probability of a drought or some other condition causing a major water supply shortage is rising, it shall be empowered to declare, by resolution, that a water watch exists and that it shall take steps to inform the public and ask for voluntary reductions in water use. Such a watch shall be deemed to continue until it is declared by resolution of the governing body to have ended. The resolution declaring the existence and end of a water watch shall be effective upon their publication in the official area newspaper.

Section 4. Declaration of Water Warning. Whenever the governing body of the PRRWD finds that drought conditions or some other condition causing a major water shortage are present and supplies are starting to decline, it shall be empowered to declare by resolution that a water warning exists and that it will recommend restrictions on nonessential (class 1) uses during that period of the warning. Such a warning shall be deemed to continue until it is declared by resolution of the governing body to have ended. The resolutions declaring the beginning and ending of the water warning shall be effective upon their publication in the official area newspaper.

Section 5. Declaration of Water Emergency. Whenever the governing body of the PRRWD finds that an emergency exists by reason of a shortage of water supply needed for essential uses, it shall be empowered to declare by resolution that a water supply shortage exists and that it will impose mandatory restrictions on water use during the period of the emergency. Such an emergency shall be deemed to continue until it is declared by resolution of the governing body to have ended. The resolutions declaring the existence and end of a water supply emergency shall be effective upon their publication in the official area newspaper.

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Section 6. Voluntary Conservation Measures. Upon the declaration of a water watch or water warning as provided in Sections 3 and 4, the chairman or district manager is authorized to call on all water consumers to employ voluntary water conservation measures to limit or eliminate nonessential water uses including, but not limited to, limitations on the following uses:

- (a) Sprinkling of water on lawns, shrubs or trees.
- (b) Washing of automobiles.
- (c) Use of water in swimming pools, fountains and evaporative air conditioning systems.
- (d) Waste of Water.

Section 7. Mandatory Conservation Measures. Upon the declaration of a water supply emergency as provided in Section 5, the chairman or district manager is also authorized to implement certain mandatory water conservation measures, including, but not limited to, the following:

- (a) Suspension of new connections to the PRRWD's water distribution system, except connections of those made pursuant to agreements entered into by the PRRWD prior to the effective date of the declaration of the emergency;
- (b) Restrictions on the use of water in one or more classes of water use, wholly or in part;
- (c) The imposition of water rationing based on any reasonable formula including, but not limited to, the percentage of normal use and per capita or per consumer restrictions.
- (d) Complete or partial bans on the waste of water; and
- (f) Any combination of the foregoing measures.

Section 8. Emergency Water Rates. Upon the declaration of a water supply emergency as provided in Section 5, the governing body of the PRRWD shall have the power to adopt emergency water rates by resolution designed to conserve water supplies. Such emergency rates may provide for, but are not limited to:

- (a) higher charges for increasing usage per unit of use (increasing block rates);
- (b) uniform charges for water usage per unit of use (uniform unit rate); or
- (c) extra charges in excess of a specified level of water use (excess demand surcharge).

Section 9. Regulations. During the effective period of any water supply emergency as provided for in Section 5, the chairman or district manager is empowered to promulgate such regulations as may be necessary to carry out the provisions of this resolution, any water supply emergency resolution, or emergency water rate resolution. Such regulations shall be subject to the approval of the governing body at its next regular or special meeting.

Section 10. Violations, Disconnection, and Penalties.

(a) If the chairman or district manager charged with implementation and enforcement of this resolution or a water supply emergency resolution learn of any violation of any water use restriction imposed pursuant to Section 7 or 9 of this resolution, a written notice of the violation shall be affixed to the property where the violation occurred and the customer of record and any other person known to the PRRWD who is responsible for the violation or its correction shall be provided with either actual or mailed notice. Said notice shall describe the violation and order that it be corrected, cured, or abated immediately or within such specified time as the PRRWD determines is reasonable under the circumstances. If the order is not complied with, the PRRWD may terminate water service to the customer subject to the following procedures:

(1) The PRRWD shall give the customer notice by mail or actual notice that water service will be discontinued within a specified time due to the violation and that the customer will have the opportunity to appeal the termination by requesting a hearing scheduled before the PRRWD governing body or a PRRWD official designated as a hearing officer by the governing body.

(2) If such a hearing is requested by the customer charged with the violation, he or she shall be given a full opportunity to be heard before termination is ordered; and

(3) The governing body or hearing officer shall make findings of fact and order whether service should continue or be terminated.

(b) A fee of \$50.00 or actual time and mileage (which ever is greater) at the PRRWD current rates shall be paid for the reconnection of any water service terminated pursuant to subsection (1). In the event of subsequent violations, the reconnection fee shall be \$200.00 for the second reconnection and \$300.00 for any additional reconnections.

(c) Violations of this resolution shall be an offense of the districts rules and regulations and may result in termination of service.

Section 11. Emergency Termination. Nothing in this resolution shall limit the ability of any properly authorized PRRWD official from terminating the supply of water to any or all customers upon the determination of such PRRWD official that emergency termination of water service is required to protect the health and safety of the public.

Section 12. Severability. If any provision of this resolution is declared unconstitutional, or the application thereof to any person or circumstance is held invalid, the constitutionality

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of the remainder of the resolution and its applicability to other persons and circumstances shall not be affected thereby.

Section 13. This resolution shall become effective upon its publication in the official area newspaper.

Passed by the governing body this 11<sup>th</sup> day of JUNE, 1996.

*Lee Roy Charvat*  
LeeRoy Charvat, Chairman  
*REX MUNDOW, VICE-CHAIRMAN*

ATTEST:

*Vernon Radke*  
Vernon Radke, Secretary/Treasurer