

901 S. Kansas Avenue
Topeka, KS 66612



Phone: (785)-296-3188
Fax: (785)-296-0878
www.kso.org

Tracy Streater, Director

Sam Brownback, Governor

June 11, 2014

Penny Soukup, City Clerk
City of Abilene
PO Box 519
Abilene KS 67410

Dear Ms. Soukup:

Thank you for your patience and cooperation in working with us on the municipal water conservation plan and water drought/emergency ordinance for the City of Abilene.

The Kansas Water Office has reviewed your municipal water conservation plan as adopted by the City of Abilene; submitted to us; and received on June 10, 2014. It appears that the plan is consistent with the current Kansas Water Office Guidelines for municipal water conservation plans. I recommend that your water conservation plan be hereby approved (copy enclosed).

The Water Drought/Emergency Ordinance (Ordinance No. 3203) as adopted by the governing body of the City of Abilene on August 27, 2012, and received by us on June 10, 2014, appears to be adequate to carry out the implementation of your municipal water conservation plan (copy enclosed).

Sincerely,

A handwritten signature in cursive script that reads "Tina Rajala".

Tina Rajala
Environmental Scientist

Approved by:

A handwritten signature in cursive script that reads "R. F. Lytle Jr.".

Robert F. Lytle, Jr.
Environmental Scientist
Kansas Department of Agriculture
Division of Water Resources

Date: 6-12-14

Enclosures

cc: Linda White, Kansas Department of Health and Environment
Elmer Ronnebaum, Kansas Rural Water Association
Bob Lytle, Division of Water Resources

Drought-Vol



**MUNICIPAL WATER
CONSERVATION PLAN
FOR THE
CITY OF
ABILENE**

Municipal Water Conservation Plan For the City of Abilene

TABLE OF CONTENTS

INTRODUCTION

LONG TERM WATER USE EFFICIENCY

 Water Use Conservation Goals

 Water Conservation Practices

 Education

 Management.....

 Regulation.....

DROUGHT RESPONSE

 Stage 1: Water Watch

 Stage 2: Water Warning

 Stage 3: Water Emergency.....

PLAN REVISION, MONITORING AND EVALUATION

INTRODUCTION

The primary objectives of the Water Conservation Plan for the City of Abilene 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 City 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.

The City of Abilene has undertaken a number of steps to ensure a dependable water supply. The water supply for our City is obtained from wells drilled in 1945-2008 and take water from the Sand Springs Aquifer and the Smoky Hill River Alluvium. Treated water storage facilities consist of three 500,000 gallon tanks of which two are ground level tanks and one is elevated, plus one 250,000 gallon elevated tank. Our City water supply and distribution system have adequate capacity to meet current customer demands and future projected demands for several years, except during drought periods. The City of Abilene 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

The City of Abilene used 137 gallons per person per day (GPCD) in 2010. This GPCD figure included:

- Water sold to residential/commercial customers;
- Water distributed for free public services (parks, cemeteries, swimming pools etc.); 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 2010 Kansas Municipal Water Use Publication, our City is located in Region 7. From this publication it was determined that our City GPCD water use was 137, which was 40 percent above the regional average of 98 GPCD among cities in Region 7 during 2010. The City desires to set a water use conservation goal for usage not to exceed 99 GPCD based on the regional average of the last five years (2006-2010). Our City 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 City. Specific practices that will be undertaken to conserve water are listed and a target date to begin each practice is also shown.

Education

The City 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 occasionally provided on the water bills. The City has provided information on water conservation to the local news media on a regular basis.

The City 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.

| Education Conservation Practices to be Taken | Target Date |
|--|---|
| 1. Water bills will show the amount of water used in gallons and the cost of the water. | implemented in 2013 and ongoing |
| 2. Water bills will show the amount of water used in gallons during this billing period and the number of gallons used last year during the same billing period. | Presently available on line thru Payment Service Network, which will be advertised better. October 2014 |
| 3. Water conservation tips will be provided occasionally on the monthly water bills during the summer months. | Started Summer 2013 and ongoing |
| 4. Water conservation articles or issues will be provided or discussed each month during the summer by the local news media. | Started April 2013 and ongoing |
| 5. Make available information on water conserving landscape practices through publications, local news media, seminars or other appropriate means. | Started May 2013 and ongoing |

Management

1. Meters will be installed at all residential service connections and at all other service connections whose annual water use may exceed 300,000 gallons, including separate meters for municipally operation irrigation systems which irrigate more than one acre of turf. (implemented)
2. All meters for source water will be read at least on a monthly basis and meters at individual service connections will be read at least once every two months. (Implemented).
3. The City of Abilene will implement a water management review, which may result in a specified change in water management practices or implementation of a leak detection and repair program or plan, whenever unaccounted for water exceed 20% of the total source water for a four month time period. (Implemented)
4. Water sales will be based on the amount of water used (Implemented)

Water meters are installed for all residential/commercial customers, as well as for all water distributed free of charge to city government buildings and grounds.

The City of Abilene reads each customer's water meter and mails a water bill to each customer every month. Customer water meters are generally read approximately the 15th of each month; however, the meter reader sometimes deviates from the scheduled time period.

Water leaks from the City public water distribution system are repaired when discovered and/or reported to City Personnel. Water pressure is not checked unless customers complain that their water pressure is too low.

The water rate structure for the City was passed on April 14, 2014 effective May 1, 2014. The minimum monthly water bill is \$13.75. Residential water use is charged \$3.25 per 1,000 gallons with a conservation rate of \$6.50 per 1,000 gallons for water used over the winter average plus 20%. The rate doubles to \$13.00 per 1,000 for water over the winter average plus 20% during a declared water emergency. Commercial customers are charged \$3.25 per 1,000 gallons for the first 225,000 gallons, and \$2.75 per 1,000 gallon after that. The rate jumps to \$3.00 per 1,000 gallon during a declared water emergency for water used above 225,000 gallons. Customers outside the city limits pay double the rates stated earlier. The Rural Water District #2 wholesale rate is \$1.44 per 1,000 gallons. The sewer rate for all customers passed on January 24, 2011, is \$11.40 minimum plus \$4.75 per 1,000 gallons of winter average use. The City periodically reviews water rates.

The City of Abilene realizes that much greater emphasis must be placed on obtaining accurate measurement of water use at our source and at customer meters. For that reason, the City of Abilene 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 five years. Each meter will be repaired or replaced if its test measurements are not within industry standards (such as AWWA standards). | (Implemented) |
| 3. Meters at each individual service connection will be replaced or tested for accuracy on a regular basis, per industry standards (such as AWWA standards), if they are one inch or less. Meters over one inch will be tested for accuracy at least once every five years. Each meter will be repaired or replaced if its test measurements are not within industry standards (such as AWWA standards). | (Implemented) |
| 4. A water rate structure designed to curb excessive use of water will be evaluated. | (Implemented) |
| 5. Recommend to Community Development Director a program to incorporate water conserving landscape principles into future landscape development projects, including renovation of existing landscapes. | (Implemented) |
| 6. Encourage the recycling of wastewater for selected industrial or irrigation purposes. | (Implemented) |

Regulation

The City of Abilene does have water conservation regulations in effect at the present time. From May 1 to September 30 each year there is a prohibition of outside watering between the hours of noon and 7 p.m. (Ordinance No. 3197, 5/12)

Abilene does have a plumbing code. The enforcement of any regulations to require use of any water conservation plumbing measures is ongoing. Most new homes and/or remodeling projects do include the use of water conservation toilets and faucets.

| Regulation Actions to be Taken | Target Date |
|--|--------------------|
| 1. All new or renovated construction will install toilets that use 1.6 gallons per flush or less and low flow showerheads that use 2.5 gallons per minute or less. | (Implemented) |
| 2. Adopt a landscape water conservation ordinance. | October 1, 2014 |

DROUGHT RESPONSE

The City of Abilene 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 City Manager is authorized by ordinance to 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

1. This stage is triggered:
2. Storage fall to or below 70% capacity
3. One or more wells fail to produces water as needed
4. Whenever the City Manager finds that conditions indicate the probability of a drought or some other condition causing a major water supply shortage is rising.

Education Actions

1. The City will make occasional news releases to the local media describing present conditions and indicating the water supply outlook for the upcoming season.
2. Monthly summaries of precipitation, temperature, water levels in wells will be made public at the beginning of each week.
3. Water-saving tips will shared with water utility customers.

Management Actions

1. Leaks will be repaired as soon as practical upon notification.

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. (City Code 7-1004)

Stage 2: Water Warning

Goals

The goals of this stage are to reduce daily consumption by 30 percent and to reduce overall weekly consumption by 30 percent.

Triggers

This stage is triggered:

1. When Well #1 water level drops to 5 feet.
2. Storage fall to or below 60% capacity
3. Whenever the Governing Body finds that drought conditions or some other condition causing a major water supply 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 non-essential uses during the period of the Water Warning.

Education Actions

1. The City will make weekly news releases to the local media describing present conditions and indicating the water supply outlook for the upcoming week.
2. Bi-monthly summaries of precipitation, temperature, water levels in wells will be made public.
3. Water conservation articles will be provided to the local newspaper.
4. Water-saving tips will be available to water utility customers, online or printed copies are available at City Hall.

Management Actions

1. Upon declaration of a Water warning, the City Manager, or other designated official, is also authorized to implement certain mandatory conservation measures, including, but not limited to, the following.
 - a. The price is doubled for new connections to the City's water distribution system, except connections of fire hydrants and those made pursuant to agreements entered into by the City prior to the effective date of the declaration of the water warning;
 - b. The City will suspend washing of the City Fleet, hydrant flushing, and Water Tower draining and flushing for inspection.
 - c. Restrictions on the uses of water in one or more classes of water use, as defined in Section 7-1002(d) of the City Code, wholly or in part;

- d. 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 customer restrictions;
 - e. Complete ban on the waste of water;
 - f. Any combination of the measures in Sections 7-1005 of the City Code as the Governing Body, or authorized City official, may deem appropriate and/or necessary.
2. The City water supplies will be monitored daily.
 3. Leaks will be repaired as soon as possible upon notification.
 4. Pumping at wells will be reduced to decrease drawdown and to maintain water levels over well screens.

Regulation Actions

1. Upon declaration of a Water warning, the City Manager, or other designated official, is also authorized to implement certain mandatory conservation measures, including, but not limited to the following.
 - a. The price is doubled for new connections to the City's water distribution system, except connections of fire hydrants and those made pursuant to agreements entered into by the City prior to the effective date of the declaration of the water warning;
 - b. The City will suspend washing of the City Fleet, hydrant flushing, and Water Tower draining and flushing for inspection.
 - c. Restrictions on the uses of water in one or more classes of water use, as defined in Section 7-1002(d) of the City Code, wholly or in part;
 - d. 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 customer restrictions;
 - e. Complete ban on the waste of water;
 - f. Any combination of the measures in Sections 7-1005 of the City Code as the Governing Body, or authorized City official, may deem appropriate and/or necessary.

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. (City Code 7-1004)

Stage 3: Water Emergency

Goals

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

Triggers:

This stage and level is triggered:

1. When there is 4.5 feet of water left in Well #1
2. Running peak production reaches 18 hours per day
3. When the average Sand Springs water table falls below 6 feet
4. Storage fall to or below 50% capacity
5. Whenever the Governing Body 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 Emergency exists and that it will impose mandatory restrictions on water use during the period of the Water Emergency.

Education Actions

1. The City will make news releases as needed to the local media describing present conditions and indicating the water supply outlook.
2. Weekly summaries of precipitation, temperature, water levels in wells will be made public.
3. The City will hold public meetings as needed to discuss the emergency, the status of the City water supply and further actions, which may need to be taken.
4. Water conservation articles will be provided to the local newspaper.
5. Water-saving tips will be available to water utility customers, online or printed copies are available at City Hall.

Management Actions

1. The City water supplies will be monitored daily.
2. Leaks will be repaired as soon as possible upon detection.
3. Pumping at wells will be reduced to decrease drawdown and to maintain water levels over well screens.
4. The City will consider changing the blend ratio of the water to minimize the strain on the two well fields.
5. The City will begin coordination for emergency supplies from other users, the state or the federal government.

City will contact DWR for permission to require private well owners to comply with

6. The City's drought response regulations as authorized under K.S.A. 82a-733i.

Regulation Actions

These regulation actions apply to City residents (including private domestic well users, if authority is delegated by the Chief Engineer under K.S.A. 82a-733i.

These regulation actions apply to City residents (including private domestic well users, if authority is delegated by the Chief Engineer under K.S.A. 82a-733i.

1. Upon declaration of a Water Emergency as provided in Section 7-1003(c) of the City Code, the City Manager, or other designated official, is also authorized to implement certain mandatory conservation measures, including, but not limited to, the following:
 - a. Suspension of new connections to the City's water distribution system, except connections of fire hydrants and those made pursuant to agreements entered into by the City prior to the effective date of the declaration of the Emergency;
 - b. The City will suspend washing of the City Fleet, hydrant flushing, and Water Tower draining and flushing for inspection.
 - c. Restrictions on the uses of water in one or more classes of water use, as defined in Section 7-1002(d) of the City Code, wholly or in part;
 - d. 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 customer restrictions;
 - e. Complete ban on the waste of water;
 - f. Any combination of the measures in Sections 7-1005 of the City Code as the Governing Body, or authorized City official, may deem appropriate and/or necessary.
2. Upon the declaration of a Water Emergency as provided in Section 7-1003(c) of the City Code, the Governing Body shall have the power to adopt emergency water rates by ordinance 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 use per unit of use (uniform unit rate); or
 - c. Extra charges in excess of a specified level of water use (excess demand surcharge).

PLAN REVISION, MONITORING & EVALUATION

The City of Abilene 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. The City of Abilene will review and evaluate the GPCD goals to assess further actions and will provide a status report to DWR.