

MUNICIPAL WATER

CONSERVATION

PLAN FOR THE

CITY OF EUREKA

**Municipal Water Plan for the
City of Eureka**

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**INTRODUCTION**

The City of Eureka has undertaken a number of steps to ensure a dependable water supply for our users. Construction of a new water treatment plant was completed in 1976 and use from the Otis Creek Reservoir started the same year. Our City water supply, water treatment plant and distribution system have ample capacity to meet current user demands. The City of Eureka believes that our Municipal Water Conservation Plan represents and additional major step in ensuring our customers of dependable water supply for years.

**MUNCIPAL WATER CONSERVATION PLAN**

The primary objectives of the Water Conservation Plan for the City of Eureka are to develop long-term water conservation plans (Long - Term Water Use Efficiency Section) and short - term water emergency plans (Drought/Emergency Contingency 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.

**LONG - TERM WATER USE EFFICIENCY**

**WATER USE CONSERVATION GOALS**

The City of Eureka used 120 gallons per capita per day (GPDC) in 1995. This GPCD figure included:

a) water sold to residential/commercial customers;
b) water distributed for free public services (parks, cemeteries, swimming pools etc.); and
c) water lost by leaks in the water distribution system.

However, the GPCD figure does not include municipally supplied water for industries that use of 200,000 gallons per year. According to Figure 1, shown in the 1995 Kansas Municipalities Water Use Publication, our City is located in Region 7. From this publication it was determined that our City's GPCD water use was 120, which was 6 percent above the region average of 113 GPCD among Cities in Region 7 during 1995. The City desires to set a water use conservation goal for usage not to exceed 116 GPCD based on the regional average of the last five years (1991 thru 1995). Our City anticipates not exceeding this goal by carrying out the specific actions that are outline in our plan.

**WATER CONSERVATON PRACTICES**

This subsection of the plan summarizes the current education, management and regulations 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 target date to begin each practice is also shown.

**Education**

The City water bills show the total number of gallons water used during the billing period and the mount of the bill. Water conservation tips are not normally provided with the water bills. The City has not provided information on water conservation to the local new media on a regular basis and has not encouraged the Board of Education and teachers to become involved in water conservation presentation in schools.

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** |
| The City will provide seminars to USD #389 regarding water conservation. | October 1998 |
| The City will begin periodically printing water conservation tips on monthly bills | October 1997 |

**Management**

The City of Eureka has gallon meters on each of our raw water intake pumps. These meters are generally read on a monthly basis around the 20th of the month, unless this schedule is not convenient. The amount of raw water pumped is determined by gallons per minute meters read daily. The meters and pumping rates of the pumps are calibrated semi-annually for accuracy.

Water meters are installed at most residential and commercial customers; however the amount of water provided free of charge to a few places and to City owned buildings and grounds are not metered. Customer meters are scheduled for an accuracy test and possible repair or replacement upon receiving a request to do so from the customers. Meters are replaced on a 10 year program.

The City of Eureka reads each customer's water meter and mails a monthly water bill to each customer.

Water leaks from the City public water distribution systems are repaired when customers and/or employees report significant leaks from the water mains. 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 August 27, 1990. The minimum monthly water charge is $8.75 for residential users which allows up to 2,000 and 23,000 gallon is charged at $0.31 per 100 gallons. All water use in excess of 23,000 gallons per month is charged $0.22 per 100 gallons.

The City of Eureka realizes that much greater emphasis must be placed on obtaining accurate measurement of water use at our raw water intake 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 City public water distribution system. Hence, the City of Eureka 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 raw intakes will have meters installed and the meters will be repaired or replaced within two weeks when malfunctions occur | Implemented |
| 2. Meters at raw water intakes 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 two percent of the actual volume of water passing through the meter. | Implemented |
| 3. Meters will be installed at all residential service connections whose annual water use may exceed 300,000 gallons, including separate meters for municipally operated irrigation systems which irrigate more than one acre of turf. | Implemented |
| 4. All raw water intakes 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 |
| 5. A reading will be taken at each raw water intake meter at the same time that meters for individual service connections are read. | Implemented |
| 6. The 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 raw water intake for a four month time period.  | January 1999 |
| 7. Water sales will be based on the amount of water used. | Implemented |

**Regulation**

The City of Eureka does not have any water conservation regulations in effect at the present time.

**DROUGHT / EMERGENCY CONTINGENCY**

The City of Eureka 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 Administrator is authorized by ordinance to implement the appropriate conservation measures.

**STAGE 1: WATER WATCH**

**Triggers**

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

1. The City storage has fallen below 85 percent capacity,
2. Demand for one day is an excess of 1.0 million gallons per day (mgd).

**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.

**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. Previous months summaries of precipitation, temperature, water levels and storage will be made public at the beginning of each month.

**Management Actions**

1. Leaks will be repaired with 48 hours of detection.
2. System pressure will be maintained below 80 pounds per square inch.
3. The City will monitor its use of water and will curtail activities such as hydrant flushing and street cleaning.

**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**

**Triggers**

This stage is triggered by any one of the following conditions:
1. The City's storage has fallen below 70 percent capacity,
2. Treatment plant operations are at 80 percent capacity or more for three consecutive days, or
3. Demand for one day is in excess of 1.3 mgd.

**Goals**

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

**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. Previous week summaries of precipitation, temperature, water levels and storage will be made public each Thursday.
3. The city will place inserts in each customer's water bill outlining tips on conserving water indoors and outdoors.
4. Water conservation articles will be provided to the local newspaper.

**Management Actions**

1. The City's water supplies will be monitored daily.
2. Leaks will be repaired within 24 hours of detection.
3. System pressure will be maintained between 50-55 pounds per square inch.
4. The City will curtail its water usage, including operation of fountains, watering City grounds and washing of vehicles.

**Regulation Actions**

1. An odd/even lawn watering system will be imposed on City residents. Residents will odd- numbered addresses will water on odd days, even addresses 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 9:00p.m.
3. Golf courses will restrict watering on tees and greens after sunset.
4. Refilling of swimming pools will be allowed one day a week after sunset.
5. Excess water use charges for usage of water over the amount used in the winter will be imposed.
6. Waste of water will be prohibited.

**STAGE 3: WATER EMERGENCY**

**Triggers**

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

1. The City's storage has fallen below 50 percent capacity,
2. Treatment plant operations are at 90 percent capacity or more for three consecutive days, or,
3. Demand for one day is in excess of 1.5 mgd.

**Goals**

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

**Education Actions**

1. The City will make daily news releases to the local media describing present conditions and indicating the water supply outlook for the next day.
2. Previous days summaries of precipitation, temperature, water levels and storage will be made available to the public each day.
3. The city will hold public meetings to discuss the emergency, the status of the City's water supply and further actions which need to be taken.

**Management Actions**

1. The City's water supplies will be monitored daily.
2. Leaks will be repaired within 24 hours of detection.
3. System pressure will be maintained at 50-55 pounds per square inch.
4. The City will seek additional emergency supplies from other users, the state or the federal government.

**Regulation Actions**

1. Outdoor water use will be banned.
2. Waste of water will be prohibited.

**PLAN REVISION, MONITORING & EVALUATION**

The City of Eureka 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 Eureka's 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 city 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 Kansas Water Office which will also include any additional water conservation practices that may need to be taken in order for the City to achieve and maintain its water use conservation GPCD goals.