

2022 Water Conservation Plan

Comprehensive Five Year Plan



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City of Amarillo
Water Utilities Division

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INTRODUCTION:

The 2022 City of Amarillo Water Conservation Plan outlines specific water conservation goals for the next five years. The original plan was completed in 2002 and has been reviewed and updated every five years. In 2007 the plan was updated by Resolution No. 10-02-07-1, in 2012 by Resolution 10-9-12.2 and in 2017 by Resolution 10-24-17-4. The Water Conservation Plan contains strategies for reducing consumption, improving efficiency of use, increasing recycling and reuse, and preventing pollution of the water supply. The plan uses Best Management Practices to develop and meet identified targets and goals. The following sections will explain how these goals are developed, the specific measure of merit for each goal, and minimum requirements contained in TCEQ rule Title 30, Texas Administrative Code (TAC), Chapter 288.

GOAL DEVELOPMENT AND MEASURES OF MERIT:

I. GOAL DEVELOPMENT

Water Conservation Goals are categorized by area of control—supply side and demand driven. Supply side measures are those that are within the control of the City of Amarillo and the sources that supply the water to the City. Demand driven measures are those controlled by the consumers. As each goal is developed, it will list the targeted conservation measures, how they will be implemented, and how they will be assessed for effectiveness.

- A. Supply Side Measures include those that are under control of the City of Amarillo and the sources that supply water to the City. Factors that affect supply side measures include, but are not limited to the following:
- Capacity of the City water supply sources and characteristics of the distribution system
 - Capacity of the wastewater system
 - Water allocations from Canadian River Municipal Water Authority (CRMWA)
 - Setting operating rates charged to consumers for usage of the water
 - Resolutions, ordinances, and codes controlling usage of the water
 - Continuous updating of conservation programs
 - Rates of source water recharge
 - Alternative water sources
 - Implementation of Drought Contingency Plan stages as indicated in the Drought Contingency Plan
- B. Demand Driven Demand Driven measures are those driven by consumers. These include, but are not limited to:
- Various demographic information, such as personal interests, age, level of education, income, and housing value
 - Type and purpose of consumption (indoor versus outdoor)
 - Category of usage (residential, commercial, industrial, and institutional)
 - Participation in water conservation rebate and/or incentive programs
 - Turf and landscape changes
- C. Conservation In addition to the above factors that affect goal development, the degree of conservation sought also aids in determining the specific goals for the next five years. There are two basic types of conservation: voluntary and mandatory.
- Voluntary - All or most water conservation measures that are noncompulsory. Many

of the goals developed are of this type.

- Mandatory - The water conservation measures that are compulsory. They will be complied with whether they are passive and already in place or mandated by local government. In addition to the mandatory conservation goals selected in this plan, the City may also implement its Drought Contingency Plan when necessary.

II. MEASURES OF MERIT

The primary device for measuring attainment of goals will be through conducting a water utility audit. Audits will be conducted annually based on the previous calendar year's water consumption. The audit will be conducted using reports from the Director of Utilities Office and by completing the Utility Profile & Water Conservation Plan Requirements for Municipal Water Use by Public Water Suppliers (TCEQ-10218) and the Texas Water Development Board's annually required Water Use Survey, Water Loss Audit, and Water Conservation Plan Reports.

In general, water conservation goals are set so that the amount of water used per year decreases or remains the same as population increases and total demand decreases relative to total consumption. A measurement of merit will be included along with each conservation goal for the current year. Indicators of conservation goals met are:

- Reduction in usage of water as measured in gallons per capita per day (GPCD) for residential, commercial, and industrial users
- Unaccounted for water as a percentage of gallons produced per year (%) for the overall water supply, distribution, and treatment system
- Annual peak-to-average daily use ratio
- Quantity of wastewater treated
- Quantity of reused or recycled water
- Total usage

CONSERVATION GOALS FOR THE 2022 PLAN:

This section outlines conservation goals for the 2022 Plan. Those measures listed in the above section will be continued 'as is' in the 2022 Plan. Some of the measures will be modified slightly to reach their target audience and add a quantifiable means of tracking their progress towards conservation. Those measures are:

Supply Side Measures

- Automated Metering Infrastructure Project (AMI)
- Water Supply Contracts - Conservation Plan Provisions
- Potter County Well Field Project
- Reclaimed Water Sold to Xcel
- Metering – Per Texas Administrative Code §24.169
- Water Waster Reporting Program
- Leaky Water Main Replacement Program
- Water Conservation Website
- Texas Water Development Board Water Loss Audit
- Unauthorized/Unbilled Connections Tracking Program
- Fire Hydrant Flush Tracking Program
- Alternative Water Sources
- Rain/Freeze Sensor Rebate Program

Demand Driven Measures

- Continuing Public Education, Information, and Outreach Efforts
- Form Partnerships with Agencies and Associations with a Vested Interest in Water Conservation
- Presentations to Community Organizations and Agencies Regarding Water Conservation
- Form Water Conservation Advisory Committee
- Gallons Per Capita Per Day (GPCD)

I. SUPPLY SIDE MEASURES

A. Automated Metering Infrastructure Project (AMI)

1. Description of Measure:

The AMI project is designed to modernize the way the City of Amarillo uses water. An interactive customer portal will include daily water usage, which can help identify water leaks. This project also guarantees an increase in meter accuracy which facilitates the creation of more effective water conservation goals. A reduction in water loss is expected, and consequently, a recovery of revenue lost to unaccounted water use.

2. Costs Involved:

The \$29.8 million project is funded with a zero-interest loan from the Texas Water Development Board.

3. Implementation Plan:

- RFP/Bidding Completed
- Selection of AMI Vendor Completed
- Installation of over 74,000 meters Ongoing
- Record Management (meters replaced, usage, sales, etc.) Ongoing

4. Measure of Merit:

A decrease in the amount of water loss due to unaccounted water use (meter accuracy), reduction in daily water usage during peak months, and faster identification of water leaks is a good measure of this project’s effectiveness.

B. Water Supply Contracts - Conservation Plan Provisions

1. Description of Measure:

Wholesale Water Contract Provisions - Each wholesale water contract entered into, renewed, or extended must contain provisions for curtailing water supplies. Wholesale water sold includes City of Canyon, Palo Duro Canyon, Fritch Highway Water Association, and Amarillo MHC. The wholesale contracts will be contractual prior to the sale of any water.

2. Costs Involved:

No direct costs will be incurred by this measure other than indirect costs incurred by employees’ time and minimal administrative costs.

3. Implementation Plan:

- Record Management (water production, consumption, sales) Ongoing

4. Measure of Merit:

Analysis of the amount of water sold to wholesale consumers—by either identifying a decrease in the amount of water sold or a correlating increase in the population served—is a way to measure effectiveness.

C. Potter County Well Field

1. Description of Measure:

Expansion of the Potter County Well Field with the addition of two production wells. Each well is expected to produce 1,440 GPM—totaling 4.1 MGD. In conjunction with the wells, approximately 3,500 linear feet of 12-inch and 18-inch collection lines will be added. This project will assist in continuing to secure the City’s water supply.

2. Costs Involved:

The original construction cost was approximately \$2,800,000.

3. Implementation Plan:

- Engineering and design.....Ongoing
- Bidding Process.....Ongoing
- Construction process and timeline.....Ongoing

4. Measure of Merit:

Determined by the amount of water produced and distributed to the City.

D. Reclaimed Water sold to Xcel Energy

1. Description of Measure:

This measure includes the treatment, reuse, and sale of wastewater effluent.

2. Costs Involved:

No direct costs will be incurred by this measure other than indirect costs incurred by employees’ time and minimal administrative costs.

3. Implementation Plan:

- Record Management (treatment, discharges, sales, etc.).....Ongoing

4. Measure of Merit:

Analysis of the amount of water sold to Xcel Energy is a measure of effectiveness.

E. Metering (Per Texas Administrative Code Rule §24.169)

1. Description of Measure:

This measure includes a process for universal metering of customers’ water usage, meter testing and repair, and for periodic meter change out. Water meters can become damaged and deteriorate with age, thus producing inaccurate readings. Inaccurate readings will give erroneous information regarding water usage, make leak detection difficult, and result in loss of revenue for the system.

2. Costs Involved:

Replacement cost of meters, testing, and repairs.

3. Implementation Plan:

- Record Management (water production, consumption, sales, etc.).....Ongoing
- Replacements, testing and calibration, etc.....Ongoing
 - Water meters are scheduled for replacement when they reach a life span of 20 to 25 years
 - Water meters ranging from 5/8” to 2” that are pulled for various reasons are bench tested for accuracy before they go back out into the system.
 - Water meters that fail the AWWA standards accuracy test will either be repaired or removed from service.
 - Water meters of 3” and larger are tested at the request of a customer or if the meter usage has a history of declining water usage.

4. Measure of Merit:

Decrease in the amount of water loss due to unaccounted usage can be a measure of effectiveness. Meter repair and replacement will be documented (meter number, size, make, model, etc.).

F. Water Waster Reporting Program

1. Description of Measure:

This measure provides citizens an option for reporting water wasters by calling a direct number or sending an email to (waterwasters@amarillo.gov). The complaint will be investigated, and a City representative will contact the customer to resolve the issue.

- Aimed at increasing irrigation water conservation and resolving preventable issues like broken/misadjusted sprinkler heads, etc.

2. Costs Involved:

No direct costs will be incurred by this measure other than indirect costs incurred by employees' time and minimal administrative costs.

3. Implementation Plan:

- Record Management (number of calls, emails, customer contacts, etc.)..... Ongoing
- Work with customer to get issue resolved..... Ongoing
 - City of Amarillo personnel will respond to water wasting reports to verify the water waste is occurring. If it is found that the customer is wasting water, they will be notified and/or left a door tag. If calls about the same property continue, a letter is then sent from the Director of Utilities office notifying the customer of the ongoing issue and the applicable ordinances that prohibit such water waste. Customers that have plumbing leaks on the property and are not making efforts to make repairs will be turned over to the Public Health Department and /or Building Safety.

4. Measure of Merit:

Determined by the number of calls and emails received by the City. A decrease in overall irrigation usage—especially during peak months—is an indicator of this measure's effectiveness.

G. Leaky Water Main Replacement Program

1. Description of Measure:

a. This measure includes a description of the program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system in order to control unaccounted-for uses of water.

- Condition Assessment - Active assessment and monitoring of infrastructure condition is the most proactive way to maintain a system and increase asset life.
- The leak detection programs encompass both simple active leakage detection ground surveys and advanced water loss control with district metered areas and pressure management. Through the use of pressure management and other tools, the program has significantly reduced the number of breaks and leaks.
- The City's Water Utilities Division repairs water main breaks as soon as they are identified. Due to the area being semi-desert climate and soil type water leaks typical surface within a few hours.
- The city has been proactive in replacing 2" water mains with 6" lines due the condition of the pipe.

b. This measure includes regular on-site testing a sonic leak-detection survey, or another acceptable method for detecting leaks along water distribution mains, valves, services, and meters.

2. Costs Involved:

The cost of water leakage can be measured in terms of the City operating costs associated with water supply, treatment, and delivery. Necessary repairs of larger leaks can be costly, but it can produce substantial savings in water and expenditures over life of the water main.

3. Implementation Plan:
 - Record Management (water production, consumption, sales, etc.)..... Ongoing
 - Failure Date
 - GPS Coordinates
 - Unique Pipe Asset ID (e.g., from GIS)
 - Classification of failure using standardized terminology
 - Pipe attributes
 - Replacement of old and deteriorated mains..... Ongoing
 - Testing..... Ongoing
 - Water Loss Audit..... Yearly
 - Billing Analysis - A statistically valid subset of data records is analyzed and any issues, such as meter reading and usage anomalies and billing exceptions, are recorded, audited and remedies implemented..... Ongoing
4. Measure of Merit:

A decrease in the amount of water loss through unaccounted uses is an indicator of this measure's effectiveness.

H. Water Conservation Website (<http://water.amarillo.gov>)

1. Description of Measure:

The Director of Utilities Office will update the Water Conservation web page as necessary with water conservation tips and information.

 - The page will be divided into sections that will target the various water consumers the City serves (i.e., residential, commercial, industrial).
 - Include links to various water conservation websites and environmental agencies.
 - A copy of this plan, the Drought Contingency Plan, Consumer Confidence Report, and any other documents that would demonstrate to the public the City of Amarillo's commitment to water conservation.
 - Every Drop Counts program and associated events.
2. Costs Involved:

No direct costs will be incurred by this measure other than indirect costs incurred by employees' time and minimal administrative costs.
by the employees' time to update the page.
3. Implementation Plan:
 - Conduct periodic content updates..... Ongoing
 - Work with the IT department to receive updates on website traffic..... Ongoing
4. Measure of Merit:

An increase in the website traffic in conjunction with a reduction in the amount of residential, commercial, or industrial consumption can be an indicator of the measure's effectiveness.

I. Texas Water Development Board Water Loss Audit

1. Description of Measure:

This measure includes combining the efforts of two programs to increase the accuracy of the yearly Water Loss Audit. The first program consists of the Director of Utilities Office working with Utility Billing to track unauthorized/unbilled connections. The other program includes the Director of Utilities Office working with the Amarillo Fire Department and GIS Department to track the number and duration of fire hydrants tested and/or flushed. These measures would help the City obtain more accurate information for water loss calculation purposes.

2. Costs Involved:
No direct costs for any Department will be incurred by this measure other than indirect costs incurred by employees' time and minimal administrative costs.
3. Implementation Plan:
 - Coordinate with the Utility Billing Department..... Ongoing
 - Coordinate with the Amarillo Fire Department..... Ongoing
 - Coordinate with the GIS Department..... Ongoing
4. Measure of Merit:
A decrease in the amount of water loss through unaccounted uses is an indicator of this measure's effectiveness.

J. Unauthorized/Unbilled Connections Tracking Program

1. Description of Measure:
This measure consists of the Director of Utilities Office coordinating with Utility Billing to track unauthorized/unbilled water connections. As a result of this measure, the City will obtain more accurate information for water loss calculation purposes. It also gives the opportunity to find ways to mitigate that water loss and reduce the amount of revenue lost to unauthorized/unbilled water connections.
2. Costs Involved:
No direct costs for any Department will be incurred by this measure other than indirect costs incurred by employees' time and minimal administrative costs.
3. Implementation Plan:
 - Coordinate with the Utility Billing Department..... Ongoing
 - Record Management (consumption, sales, etc.)..... Ongoing
4. Measure of Merit:
A decrease in the amount of water loss through unauthorized/unaccounted uses is an indicator of this measure's effectiveness.

K. Fire Hydrant Flush Tracking Program

1. Description of Measure:
This measure consists of the Director of Utilities Office working with the Amarillo Fire Department and GIS Department to track water usage during fire hydrant testing on a regular basis. As a result of this measure, the City will obtain more accurate information for water loss calculation purposes. It also gives the opportunity to find ways to mitigate water loss and consequently reduce the amount of revenue lost to unbilled water uses.
2. Costs Involved:
No direct costs for any Department will be incurred by this measure other than indirect costs incurred by employees' time and minimal administrative costs.
3. Implementation Plan:
 - Coordinate with Amarillo Fire Department..... Ongoing
 - Coordinate with GIS Department..... Ongoing
 - Record Management (number of hydrants flushed, duration, etc.)..... Ongoing
4. Measure of Merit:
A decrease in the amount of water loss through unaccounted/unbilled uses is an indicator of this measure's effectiveness.

L. Alternative Water Sources

1. Description of Measure:

- a. The City of Amarillo obtains water from several sources including Canadian River Municipal Water Authority (CRMWA) and City owned well fields. The City also provides reclaimed water for industrial reuse. Each of these alternative water sources operates independently of each other.
- b. Continued development of Potter County Well Field which would extend the life of the current investment, increase delivery rates, and serves against peak day demands.

2. Costs Involved:

Cost for new wells and appurtenances.

3. Implementation Plan:

- Engineering and design.....Ongoing
- Bidding Process.....Ongoing
- Construction process and timeline.....Ongoing

4. Measure of Merit:

Continued availability of alternative water sources. An increase in the amount of water produced from the expanded well field is a good indicator of effectiveness.

M. Rain/Freeze Sensor Rebate Program

1. Description of Measure:

- a. The City of Amarillo Water Utilities Department offers a financial incentive to encourage the purchase and installation of a rain/freeze sensor for residential irrigation use. The financial incentive will be in the form of a one-time credit on the eligible customers' City of Amarillo Water Utility bill.

5 Easy Steps For a Healthy Lawn

1. **Don't water when it rains or freezes.** Use a rain/freeze sensor on your automatic irrigation system.
2. **Water deeply and less often.** If your lawn springs back when you step on it, it doesn't need water.
3. **Mow high and mow often.** Keep your grass 1 1/2 to 3 inches tall. This encourages a stronger root system and reduces evaporation.
4. **Use mulch in flower beds.** Mulch helps retain moisture and contain weeds.
5. **Fertilize only as needed.** Apply sparingly and follow package labels carefully.

Contact Us
For more information about the Rain/Freeze Sensor Rebate:
(806) 378-6025
sensorrebate@amarillo.gov
To report water waste:
(806) 378-6028
For information about water conservation:
(806) 378-6032

Rain/Freeze Sensor Rebate Program
It's time to change the way we water. Reduce your use, every drop counts!

EVERY DROP COUNTS
DIVISION OF UTILITIES
AMARILLO

Rain/Freeze Sensor Rebate Program

To encourage water conservation, the City of Amarillo has adopted a residential Rain/Freeze Sensor Rebate Program. By installing a rain/freeze combination sensor on your irrigation system, you can avoid wasteful or inefficient watering during rain events or freezing temperatures.

Getting your rain/freeze sensor rebate is easy!

Rebate Program Instructions

- Contact us to reserve your rebate—(806) 378-6025 or sensorrebate@amarillo.gov
- Select, purchase, and install a qualifying rain/freeze sensor from approved list.
- Complete the rebate application form.
- Enclose a copy of the original invoice or sales receipt showing the date of purchase, cost of the device, and proof of installation.
- Send completed rebate application and supporting documentation to:
Director of Utilities Office,
Attn: Rain/Freeze Rebate Program,
808 S. Buchanan St., Amarillo, TX 79101
or email to sensorrebate@amarillo.gov
- Receive rebate credit on your water bill.

Brand	Model
Hunter	RFC Wired Rain/Freeze Cbk Sensor
Hunter	WHF-CLR Wireless Rain/Freeze Cbk sensor and receiver
Hunter	Mrs Weather Station
Hunter	Solar Spink Sensor - Wireless
Hunter	Solar Spink Sensor - Wireless
Irritrol	RF3000 Wireless Rain/Freeze Sensor
Orbit	Wired Rain/Freeze Sensor
Orbit	Wireless Rain/Freeze Sensor
Rainbird	WHF 28FC - WLF2 Wireless Rain/Freeze Sensor Combo
Rainbird	WHF 28FC-48 WLF2 Wireless R/F Sensor Combo Wireless Sensor
Toro	TWRM3 Wireless Rain/Freeze Sensor
Weathermatic	WF33 Wireless Rain/Freeze Sensor

*No other approved device

Program Guidelines

To be eligible, a resident must have an active City of Amarillo water utility account in good standing for the property where installation of qualifying sensor is to occur. The name on the utility account and proof of purchase must match. This program is for single family residences only—tenants and commercial requests will not be eligible. Limit one rain/freeze sensor rebate for the lifetime of a residence.

Only qualifying models of combination rain/freeze sensors will be eligible for a rebate. A list of qualifying devices can also be found at amarillo.gov/sensorrebate. Qualified items are selected on the basis of intended function only. The City of Amarillo does not endorse specific brands, products, or dealers and does not guarantee the performance or durability of the items purchased. It is the resident's responsibility to ensure the rain/freeze sensor is properly installed, maintained, and functions as designed.

Only approved irrigation systems installed before January 1, 2009 will be eligible for the rebate. Rebate applications must be received within 30 days of purchase/rebate reservation. Applications are processed in the order they are received. Processing of completed applications may take up to four (4) weeks. Incomplete applications will not be processed. A representative from the City of Amarillo may contact you to verify the installation of the device before your application is approved and rebate credit is issued. Once processing is complete and rebate is approved, a credit equal to the cost of the sensor device, up to \$50, will appear on your next utility bill.

2. Costs Involved:

No direct costs will be incurred by this measure other than indirect costs incurred by employees' time and minimal administrative costs.

3. Implementation Plan:

- Rebates and incentives.....Ongoing

- Reserve a rebate.
- Select, purchase, and install the qualifying rain/freeze sensor.
- Complete rebate application form.
- Enclose copy of original invoice or sales receipt showing date of installation and cost of the device.
- Mail completed rebate application and receipt/invoice to:

Director of Utilities Office
 Attn: Rain/Freeze Rebate Program
 808 S. Buchanan St.
 Amarillo, TX 79101

Or email all documentation to sensorrebate@amarillo.gov

4. Measure of Merit:

An increase in the number of rebates issued and a decrease in the amount of residential irrigation water use is an indicator of this measure’s effectiveness.

II. DEMAND DRIVEN MEASURES

A. Continuing Public Education, Information, and Outreach Efforts

1. Description of Measure:

- a. Insert water conservation information and tips with water bills at least once per year. Inserts will include material developed by City staff using information obtained from the TWDB, TCEQ, ground water districts, and other sources that pertain to water conservation.
- b. Recruit local media in providing coverage of water conservation issues and the importance of water conservation.
- c. Develop and continuously update water conservation guide and other water conservation materials.
- d. Make conservation materials available to the community at City offices, libraries, or other public places.
- e. Hold public education and interactive learning events such as the Every Drop Counts Poster contest.

2. Costs Involved:

- Varies and dependent upon what method of outreach is implemented.
- Indirect costs incurred by employees’ time and minimal administrative costs

3. Implementation Plan:

- Record Management (materials distributed, tours given, etc.).....Ongoing
- Contact stake holders regarding water conservation.....Ongoing
- Printing and distribution of conservation materials.....Ongoing
- Press releases.....Ongoing
- TV and social media announcements.....Ongoing
- Utilities Division plant tours.....Ongoing
- Displays and presentations.....Ongoing
- Provide conservation tips with bill once per year.....Ongoing

4. Measure of Merit:

A growing number of guides distributed, contest participants, television engagements, tours

given, etc. in conjunction with a decrease in peak-time water usage can be an indicator of this measure's effectiveness.

B. Form Partnerships with Agencies and Associations with a Vested Interest in Water Conservation

1. Description of Measure:
Increase water conservation efforts by partnering with Texas Agri-Life Extension Agency, Amarillo Independent School District, Center City of Amarillo, Panhandle Community Services, nurseries, irrigators associations, and other agencies and associations with a vested interest in water conservation to expand public awareness.
2. Costs Involved:
No direct costs will be incurred by this measure other than indirect costs incurred by employees' time and minimal administrative costs.
3. Implementation Plan:
 - Contact stakeholders regarding water conservation.....Ongoing
 - Coordinate with agencies regarding events and mutual conservation efforts... Ongoing
4. Measure of Merit:
Determined by the number of partnerships obtained.

C. Presentations to Community Organizations and Agencies Regarding Water Conservation

1. Description of Measure:
Operating booths at public events, speaking engagements, attending workshops, giving presentations at schools, and coordinating with civic organizations to educate the public and distribute information about water conservation.
2. Costs Involved:
 - Direct costs include cost of promotional items to be distributed at events.
 - Indirect costs incurred by employees' time and minimal administrative costs.
3. Implementation Plan:
 - Contact stakeholders regarding water conservation.....Ongoing
 - Coordinate with agencies regarding engagements/events.....Ongoing
4. Measure of Merit:
Determined by the number of engagements and/or events attended.

D. Form Water Conservation Advisory Committee

1. Description of Measure:
Expand the reach of the Water Conservation Program by coordinating with other City departments to find opportunities to become more successful in achieving public education and outreach goals.
2. Costs Involved:
No direct costs for any Department will be incurred by this measure other than indirect costs incurred by employees' time and minimal administrative costs.
3. Implementation Plan:
 - Coordinate with various departments regarding potential members.....Ongoing
 - Hold regular meetings.....Ongoing
4. Measure of Merit:
Determined by the success of goals created by the committee and/or growth of the Water Conservation Program's current goals.

E. Gallons Per Capita Per Day (GPCD)

1. Description of Measure:

- a. This measure is a representation of the water saving goals and targets for the City of Amarillo Municipal Water System. These goals can be achieved by utilizing appropriate best management practices and other conservation techniques as stated in this plan. The average rate of residential, commercial, and industrial water use demands may vary depending on the size of the system, local climate, and demographics.

Amarillo Municipal Water System Water Saving Goals				
Description	Current Average (Historic 5 Year Avg.)	Baseline	5-Year Goal	10-Year Goal
Total GPCD	218	211	201	197
Residential GPCD	92	92	90	87
Water Loss GPCD	14	10	6	6
Water Loss (%)	6%	5%	3%	3%

2. Costs Involved:

No direct costs will be incurred by this measure other than indirect costs incurred by employees' time and minimal administrative costs.

3. Implementation Plan:

- TWDB Reporting.....
Ongoing
- Water Loss Audit.....
Yearly
- Water Use Survey.....
Yearly
- Monitoring of Goals.....
Ongoing

4. Measure of Merit:

A reduction in water loss, reduction in the amount of residential, commercial, and/or industrial water consumption, and quantifiable progress towards water conservation goals can be an indicator of the measure's effectiveness.

RESOLUTION NO. 04-12-22-8

A RESOLUTION OF THE AMARILLO CITY COUNCIL AMENDING THE WATER CONSERVATION PROGRAM FOR THE CITY OF AMARILLO, ORIGINALLY ADOPTED IN 2002 AND LAST AMENDED IN 2017; PROVIDING AN EFFECTIVE DATE; PROVIDING A REPEALER CLAUSE; PROVIDING A SAVINGS CLAUSE.

WHEREAS, in 2002, by Resolution No. 11-21-00-2 the City of Amarillo City Council adopted a Water Conservation Program for the City, and updated it in 2007 by Resolution No. 10-02-07-1; and updated it again in 2012 by Resolution No. 10-9-12-2; and updated it again in 2017 by Resolution No. 10-24-17-4.

WHEREAS, water continues to be a precious and valuable resource to the City and the State of Texas;

WHEREAS, water conservation continues to be an integral part of long-term water supply management;

WHEREAS, the City of Amarillo Utilities Division has the responsibility for the management and control of the water and sewer systems of the City;

WHEREAS, said responsibility includes the acquiring of adequate water resources for the future and the protection and conservation of these water resources;

WHEREAS, it continues to be the desire of the City to ensure a safe and dependable water supply for its inhabitants;

WHEREAS, the Water Conservation Program prepared by the Utilities Division is comprehensive and will help secure the City's future water supply;

WHEREAS, implementation of additional or modified conservation practices will further assure continued reliable short- and long-term supplies of high quality, reasonably priced water;

WHEREAS, the City desires to continue meeting the requirements of the Texas Water Development Board in which a Water Conservation Program is a prerequisite to financing water development projects within the State;

WHEREAS, the adoption of a Water Conservation Program is required by the Canadian River Municipal Water Authority as a prerequisite to exporting water from its jurisdiction under the Authority's Water Production Plan;

WHEREAS, the promotion of water conservation represents an immediate and long-term benefit to the public so that it is in the public interest to adopt a Water Conservation Program and to revise it periodically; and

WHEREAS, the City is authorized and now desires to amend its Water Conservation Program as indicated in the amended plan which is attached to this resolution;

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF AMARILLO, TEXAS:

SECTION 1. The City of Amarillo Water Conservation Program is hereby amended and approved in accordance with the document attached to this Resolution as the general, long-term conservation policy for the City.

SECTION 2. This amended Water Conservation Program shall take effect and be in full force from the date of adopting this resolution and forward.

SECTION 3. The City Manager, Director of Utilities, and their respective designees are hereby authorized to take all reasonable and necessary actions to implement the provisions of the amended Water Conservation Program and otherwise to give effect to this Resolution.

SECTION 4. All water supply or wastewater treatment agreements between the City of Amarillo and any other entity shall provide for said entities to adopt a conservation program similar to that which Amarillo has in effect at any given time.

SECTION 5. All resolutions or parts thereof that conflict with this Resolution are hereby repealed to the extent of such conflict.

SECTION 6. In the event this resolution or any part hereof is found to be invalid, such invalidity shall not affect the remaining portions of the resolution. and such remaining portions shall continue to be in full force and effect.

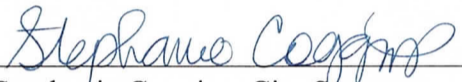
SECTION 7. This Resolution shall be effective on and after its adoption.

INTRODUCED AND PASSED by the City Council of the City of Amarillo, Texas, on this 12th day of April 2022.



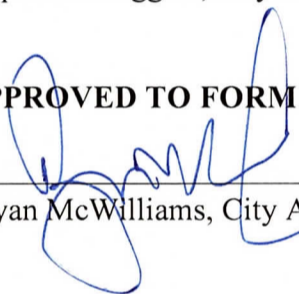
Ginger Nelson, Mayor

ATTEST:



Stephanie Coggins, City Secretary

APPROVED TO FORM



Bryan McWilliams, City Attorney

Water & Sewer Rates

(a) The following minimum monthly meter service charges include the first three thousand (3,000) gallons consumption:

Meter Size (Inches)		Inside City	Outside City
5/8	A	\$16.58	\$24.88
1	B	\$22.26	\$33.38
1 1/2	C	\$28.52	\$42.78
2	D	\$44.31	\$66.47
3 or FH Mtr	L,H,X	\$162.99	\$244.49
4	E,Y	\$206.84	\$310.27
6	F	\$309.26	\$463.90
8 or larger	G,J,K,M,W	\$426.37	\$639.56

(b) In addition to the monthly meter charge set forth in subsection (a) above, the following shall apply to of water used in excess of three thousand (3,000) gallons per month:

Quantity (Gallons)	Inside City	Outside City
Residential	Per 1,000 Gallons	Per 1,000 Gallons
3,001 – 10,000	\$2.97	\$4.45
10,001 – 30,000	\$3.88	\$5.81
30,001 – 50,000	\$5.74	\$8.60
over 50,000	\$6.51	\$9.78
Commercial/Industrial		
Over 3,000	\$3.39	\$5.08
Irrigation (all service groups)		
3,001 – 10,000	\$3.39	\$5.08
10,001 – 30,000	\$3.88	\$5.81
30,001 – 50,000	\$5.74	\$8.60
Over 50,000	\$6.51	\$9.78

Monthly Sewer Rates Inside Corporate Limits

(1) The following monthly service charges include the first three thousand (3,000) gallons and shall be charged to all users based on the water meter size as follows:

Meter Size (Inches)		Minimum Monthly Charge
5/8	A	\$18.78
1	B	\$19.40
1 1/2	C	\$19.91
2	D	\$21.61
3	L,H,X	\$24.44
4	E,Y	\$35.71
6	F	\$52.56
8 or larger	G,J,K,M,W	\$69.46

(2) For usage in excess of three thousand (3,000) gallons, a monthly service charge shall also be charged to all Residential users in the amount of two dollars and twenty-four cents (\$2.24) per one thousand (1,000) gallons of water used over the initial allotment of 3,000 gallons. The service charge for all Commercial and Industrial users shall be two dollars and forty-three cents (\$2.43) per one thousand (1,000) gallons over the initial allotment, unless the Wastewater is metered in which case the service charge shall be two dollars and sixty-eight cents (\$2.68) per thousand over the initial allotment as more specifically set forth hereinafter.

NEW RATE EFFECTIVE 10-01-21

Allegretti, Julie

From: Dustin Meyer <dmeyer@theprpc.org>
Sent: Wednesday, April 27, 2022 3:48 PM
To: Allegretti, Julie
Subject: RE: 2022 Five Year Water Conservation Plan

Attention: This email was sent from someone outside of City of Amarillo. Always use caution when opening attachments or clicking links from unknown senders or when receiving unexpected emails.

Thank you Julie for your submission I will provide this to the PWPG and our technical consultant for inclusion as we begin developing the next 5-year water plan.

Thanks,

Dustin

From: Allegretti, Julie
Sent: Wednesday, April 27, 2022 3:45 PM
To: Dustin Meyer
Subject: 2022 Five Year Water Conservation Plan

Good afternoon Mr. Meyer,

We recently completed revisions to our water conservation plan and it was accepted by our City Council. Attached is the plan and resolution. If there is another way to properly provide the Water Planning Group this plan, please let me know.

Thank you,

Julie Allegretti
City of Amarillo
Utilities Program Manager
(806) 378-6032
julie.allegretti@amarillo.gov



Disclaimer

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This email has been scanned for viruses and malware, and may have been automatically archived by Mimecast.

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

CONTACT INFORMATION

Name of Utility:

Public Water Supply Identification Number (PWS ID):

Certificate of Convenience and Necessity (CCN) Number:

Surface Water Right ID Number:

Wastewater ID Number:

Contact: First Name: Last Name:

Title:

Address: City: State:

Zip Code: Zip+4: Email:

Telephone Number: Date:

Is this person the designated Conservation Coordinator? Yes No

Regional Water Planning Group:

Groundwater Conservation District:

Our records indicate that you:

- Received financial assistance of \$500,000 or more from TWDB
- Have 3,300 or more retail connections
- Have a surface water right with TCEQ

A. Population and Service Area Data

1. Current service area size in square miles:

Attached file(s):

File Name	File Description
MAP.PNG	Amarillo City Limits

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

2. Historical service area population for the previous five years, starting with the most current year.

Year	Historical Population Served By Retail Water Service	Historical Population Served By Wholesale Water Service	Historical Population Served By Wastewater Water Service
2021	200,393	15,305	0
2020	199,371	15,000	0
2019	199,924	15,306	0
2018	199,826	15,306	0
2017	204,132	16,000	0

3. Projected service area population for the following decades.

Year	Projected Population Served By Retail Water Service	Projected Population Served By Wholesale Water Service	Projected Population Served By Wastewater Water Service
2030	206,004	15,381	0
2040	211,772	15,457	0
2050	217,701	15,534	0
2060	223,796	15,611	0
2070	230,062	15,689	0

4. Described source(s)/method(s) for estimating current and projected populations.

For the retail water population we calculated the estimated 10-year growth at 2.8%. Each decade was calculated accordingly. Wholesale water service population is not seeing the same growth so it was calculated at 0.5% growth.

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. System Input

System input data for the previous five years.

Total System Input = Self-supplied + Imported – Exported

Year	Water Produced in Gallons	Purchased/Imported Water in Gallons	Exported Water in Gallons	Total System Input	Total GPCD
2021	15,968,943,851	0	76,374,490	15,892,569,361	217
2020	16,713,786,826	0	76,374,490	16,637,412,336	229
2019	15,045,006,993	0	157,359,375	14,887,647,618	204
2018	16,882,731,463	0	375,929,143	16,506,802,320	226
2017	16,264,858,947	0	360,821,053	15,904,037,894	213
Historic Average	16,175,065,616	0	209,371,710	15,965,693,906	218

C. Water Supply System

1. Designed daily capacity of system in gallons 128,000,000
2. Storage Capacity
 - 2a. Elevated storage in gallons: 8,500,000
 - 2b. Ground storage in gallons: 74,300,000

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

D. Projected Demands

1. The estimated water supply requirements for the next ten years using population trends, historical water use, economic growth, etc.

Year	Population	Water Demand (gallons)
2023	200,954	14,784,645,928
2024	201,517	14,826,042,937
2025	202,081	14,867,555,857
2026	202,647	14,909,185,013
2027	203,214	14,950,930,731
2028	203,783	14,992,793,337
2029	204,353	15,034,773,159
2030	204,925	15,076,870,523
2031	205,499	15,119,085,761
2032	206,074	15,161,419,201

2. Description of source data and how projected water demands were determined.

Population growth was calculated at the historic percentage for Amarillo. The same percentage growth was used for the water demand. There are unknown variables such as climate that would affect these projections.

E. High Volume Customers

1. The annual water use for the five highest volume **RETAIL** customers.

Customer	Water Use Category	Annual Water Use	Treated or Raw
Tyson Fresh Meats	Industrial	134,972,000	Treated
Texas Department of Corrections	Institutional	43,673,000	Treated
Owens Corning	Industrial	15,757,000	Treated
Plains Dairy	Industrial	11,505,000	Treated
Country Club Villas	Commercial	7,587,000	Treated

2. The annual water use for the five highest volume **WHOLESALE** customers.

Customer	Water Use Category	Annual Water Use	Treated or Raw
City of Canyon	Municipal	31,174,000	Treated

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

F. Utility Data Comment Section

Additional comments about utility data.

Section II: System Data

A. Retail Water Supplier Connections

1. List of active retail connections by major water use category.

Water Use Category Type	Total Retail Connections (Active + Inactive)	Percent of Total Connections
Residential - Single Family	57,184	79.72 %
Residential - Multi-Family	7,354	10.25 %
Industrial	43	0.06 %
Commercial	7,150	9.97 %
Institutional	2	0.00 %
Agricultural	0	0.00 %
Total	71,733	100.00 %

2. Net number of new retail connections by water use category for the previous five years.

Net Number of New Retail Connections							
Year	Residential - Single Family	Residential - Multi-Family	Industrial	Commercial	Institutional	Agricultural	Total
2021	1,818	279	2	7,150	43	0	9,292
2020	0	0	0	0	0	0	0
2019	4,320	6,455	1	807	92	1	11,676
2018	648	72	0	1,038	6	1	1,765
2017	0	0	0	0	0	0	0

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. Accounting Data

The previous five years' gallons of RETAIL water provided in each major water use category.

Year	Residential - Single Family	Residential - Multi-Family	Industrial	Commercial	Institutional	Agricultural	Total
2021	4,858,386,880	1,189,596,720	365,629,860	7,621,388,800	772,421,040	0	14,807,423,300
2020	6,034,789,000	1,630,539,000	438,621,000	7,535,150,000	74,847,000	0	15,713,946,000
2019	5,678,759,000	0	355,571,000	8,189,351,000	0	0	14,223,681,000
2018	6,803,085,000	745,919,000	375,026,000	4,916,026,000	363,574,536	2,082,573,000	15,286,203,536
2017	6,381,029,000	0	385,585,000	5,161,296,000	73,505,000	1,684,154,000	13,685,569,000

C. Residential Water Use

The previous five years residential GPCD for single family and multi-family units.

Year	Total Residential GPCD
2021	83
2020	105
2019	78
2018	104
2017	105
Historic Average	95

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

D. Annual and Seasonal Water Use

1. The previous five years' gallons of treated water provided to RETAIL customers.

Month	Total Gallons of Treated Water				
	2021	2020	2019	2018	2017
January	850,414,800	875,535,000	883,930,800	1,065,876,000	
February	851,283,740	808,290,700	809,425,000	962,760,000	
March	1,038,461,400	967,444,600	947,460,000	1,406,582,000	
April	1,317,497,490	1,311,089,800	1,140,208,000	1,493,994,000	
May	1,341,994,200	1,750,736,800	1,080,250,000	1,865,893,000	
June	1,633,466,800	2,006,535,712	1,313,277,000	1,876,532,000	
July	1,631,800,500	1,972,373,649	1,870,656,000	1,951,968,000	
August	1,818,571,300	2,038,849,000	1,932,938,000	1,777,832,000	
September	1,764,157,700	1,553,586,500	1,670,254,000	1,539,003,000	
October	1,480,384,944	1,507,205,400	1,119,882,000	1,132,660,000	
November	1,156,815,300	1,070,676,800	868,620,000	912,479,000	
December	1,041,326,800	998,055,700	881,112,000	863,387,000	
Total	15,926,174,974	16,860,379,661	14,518,012,800	16,848,966,000	

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

2. The previous five years' gallons of raw water provided to RETAIL customers.

Month	Total Gallons of Raw Water				
	2021	2020	2019	2018	2017
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	0	0	0	0	0
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Total	0	0	0	0	0

3. Summary of seasonal and annual water use.

	Summer RETAIL (Treated + Raw)	Total RETAIL (Treated + Raw)
2021	5,083,838,600	15,926,174,974
2020	6,017,758,361	16,860,379,661
2019	5,116,871,000	14,518,012,800
2018	5,606,332,000	16,848,966,000
2017	0	0
Average in Gallons	4,364,959,992.20	12,830,706,687.00

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

E. Water Loss

Water Loss data for the previous five years.

Year	Total Water Loss in Gallons	Water Loss in GPCD	Water Loss as a Percentage
2021	1,048,127,503	14	6.60 %
2020	715,498,682	10	4.30 %
2019	628,966,618	9	4.22 %
2018	789,575,960	11	4.88 %
2017	1,228,866,041	17	2.31 %
Average	882,206,961	12	4.46 %

F. Peak Day Use

Average Daily Water Use and Peak Day Water Use for the previous five years.

Year	Average Daily Use (gal)	Peak Day Use (gal)	Ratio (peak/avg)
2021	43,633,356	55259115	1.2664
2020	46,192,820	65410416	1.4160
2019	39,775,377	55618163	1.3983
2018	46,161,550	60938391	1.3201
2017	0	0	0.0000

G. Summary of Historic Water Use

Water Use Category	Historic Average	Percent of Connections	Percent of Water Use
Residential - Single Family	5,951,209,776	79.72 %	40.37 %
Residential - Multi-Family	713,210,944	10.25 %	4.84 %
Industrial	384,086,572	0.06 %	2.61 %
Commercial	6,684,642,360	9.97 %	45.34 %
Institutional	256,869,515	0.00 %	1.74 %
Agricultural	753,345,400	0.00 %	5.11 %

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

H. System Data Comment Section

Section III: Wastewater System Data

A. Wastewater System Data

1. Design capacity of wastewater treatment plant(s) in gallons per day: 28,000,000

2. List of active wastewater connections by major water use category.

Water Use Category	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal	64,538	64,538	129,076	94.72 %
Industrial	43	0	43	0.03 %
Commercial	7,150	0	7,150	5.25 %
Institutional	2	0	2	0.00 %
Agricultural	0	0	0	0.00 %
Total	71,733	64,538	136,271	100.00 %

3. Percentage of water serviced by the wastewater system: 19.55 %

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

4. Number of gallons of wastewater that was treated by the utility for the previous five years.

Month	Total Gallons of Treated Water				
	2021	2020	2019	2018	2017
January	1,025,876,000	1,025,245,000	1,006,262,000		
February	984,810,000	968,674,000	845,153,000		
March	998,879,000	1,020,361,000	953,363,000		
April	969,513,000	957,023,000	928,845,000		
May	1,070,168,000	984,239,000	995,601,000		
June	920,943,000	986,355,000	998,692,697		
July	1,100,530,000	1,071,463,000	1,076,174,000		
August	1,066,070,000	1,100,634,000	1,066,790,000		
September	1,005,827,000	1,032,667,000	1,036,958,000		
October	1,054,099,000	1,070,397,000	1,160,708,000		
November	1,060,084,000	998,610,000	955,966,000		
December	1,062,302,000	1,053,538,000	994,798,000		
Total	12,319,101,000	12,269,206,000	12,019,310,697		

5. Could treated wastewater be substituted for potable water?

Yes No

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. Reuse Data

1. Data by type of recycling and reuse activities implemented during the current reporting period.

Type of Reuse	Total Annual Volume (in gallons)
On-site Irrigation	
Plant wash down	
Chlorination/de-chlorination	
Industrial	3,365,295,000
Landscape irrigation (park,golf courses)	0
Agricultural	
Discharge to surface water	2,649,597,000
Evaporation Pond	0
Other	
Total	6,014,892,000

C. Wastewater System Data Comment

Additional comments and files to support or explain wastewater system data listed below.