



**AGENDA
CITY OF HARRISONVILLE
BOARD OF ALDERMEN
WORK SESSION
CITY HALL
FEBRUARY 22, 2016
6:00 PM**

- 1. Call to Order**
- 2. Present**
- 3. Discussion Items**

A. WATER RATES

Posted on City Hall Bulletin Board this 18th day of February 2016

Kim Hubbard, City Clerk

The Board of Aldermen Work Session is open to the public but is not a meeting of the public



TO: Board of Aldermen
FROM: Jerry Gibbs, Director
DATE: February 11, 2016
SUBJECT: WATER RATES

Type of Item: *Report*

Water Rates - SRF provides a spreadsheet called the “Drinking Water SRF Rate Calculation”. The city’s annual budget, anticipated debt service and 20 year replacement schedule are added into the model. The model has two categories to enter the budget numbers, minimum or base rate and volume. For example under Minimum is Billing and Collection, Debt Service. Under Volume is Labor, Materials, Power, Chemicals and the annualized 20 year replacement schedule. The 20 year replacement schedule includes anticipated expenses from the CIP Budget, annual waterline, fire hydrant and water meter replacement, water tower painting, etc. The 20 year replacement schedule is reduced to a level pay, annualized cost.

The current water rates are not sufficient to generate adequate revenue in any combination of minimum or volume charges. SRF requested rates adequate to meet anticipated expenses. Staff submitted two rate models;

City Model \$13.89 minimum charge and \$8.71/1000 gallons volume charge

SRF Model \$19.68 minimum charge and \$7.61/1000 gallons volume charge

The city model benefits seniors and low income by keeping the base rate low. The SRF model has 100% of debt service and billing and collection in the minimum charge. The response from SRF is as follows.

“We have reviewed the user rate information here. You submitted two different rate sheets: the City Rate Model and the SRF Rate Model.

We would prefer that you place as much as possible from the Billing and Collection (B&C) expense in the minimum charge. You may consider 75% of B&C in the Minimum and 25% of B&C in the Volume. Another item you may consider is the Flow in the Minimum Charge. You could increase this to 2,000 gallons from 1,000 gallons per month. However, your rate percentages will be up

to your communities discretion.

I have attached a link to the User Rate Model Ordinance for your review: <http://dnr.mo.gov/env/wpp/srf/drinkingwater-project-assistance.htm>. We normally like to have some type of user rate ordinance in place. The user rate ordinance normally covers O & M , replacement, and user rate costs. The following narratives are also normally covered in the User Rate Ordinance.

- ☐ *Annual review of O&M charges continued adequacy, proportionality, and appropriate distribution of surpluses of deficiencies of O&M charges.*
- ☐ *A provision which requires the recipient to notify each user, at least annually, in conjunction with a regular bill (or other means acceptable to the State), of the rate and that portion of the user charges which are attributable to drinking water treatment and distribution services.*
- ☐ *All parties understand that the user charge system takes precedence over any terms or conditions of agreements or contracts between the recipient and users (including industrial users, special districts, other municipalities, or Federal agencies or installations) which are inconsistent with the requirements of federal and state regulations.*

Our office would like to concur with your User Rate budget methodology and draft user charge ordinance before your actual public meetings.

Please proceed with advertising for your public meetings.”

SRF will not dictate the rate structure the city will need to adopt. It is clear from their email the intent is to establish a higher base rate. The SRF suggested alternative would provide a \$17.28 minimum charge and a \$7.96 volume charge. When directly asked if our rates must conform to their recommendations, the only requirement is our rate structure must be sufficient to meet our revenue needs. Their concurrence is required of our proposed rate structure.

A graph showing the total water consumption from 2006 through 2015 is attached. Two major events occurred. In 06-07 the hospital moved into PWD #9 and in 09 PWD #10 stopped buying water from Harrisonville. Another trend nationally occurring is the installation of more water efficient plumbing and appliances. Billed water use in 2015 was 293 Mgal compared to 430 Mgal in 2006, 373 Mgal in 2009 and 318 Mgal in 2010. The respective revenue generated is \$2.790M, \$2.332M, \$2.939M and \$2.53M

Recommendation - Staff is recommending a base rate of at least \$13.89 for the first 1000 gallons and a corresponding volume charge of \$8.71 per 1000 gallons. There is an inverse relationship between the base and volume charges if the revenue remains the same. The calculations are based on current water usage.

Model Ordinance - SRF suggest cities adopt their model ordinance. The city's water rate ordinance is very similar. The only significant difference is identification of an operational and capital fund within the CWSS Fund. Staff is currently negotiating with SRF staff to retain our existing Code language. At the time of drafting this report, staff was still waiting on an SRF response. Upon concurrence with our proposed rate structure, the following is required:

1. a public hearing for the project environmental clearance
2. a public meeting for the Capital Facilities Plan (Water Treatment Plant Improvements)
3. a public meeting for the proposed water rates identifying what portion of the rates pays for water treatment, distribution and capital expenses.

The public meetings and hearing require a 30 day notice in the paper and can be held on the same night. The public hearing is required to have a verbatim transcript.

Recommendations -

1. Identify an acceptable rate.
2. Notify SRF of proposed rate and request concurrence
3. Complete first reading adopting water rates.
4. Proceed with the notices to schedule a public meeting and public hearing upon deciding on the appropriate water rate.
5. Complete 2nd reading and adopt the proposed water rate after completing the public meetings.

A. Discussion Item (ID # 2125)

WATER RATES

Attachments:

DWSRF Rate Model 1-22 (PDF)

City Format Rate Model 1-22 (PDF)

dw-user-charge-ordinance (2) (PDF)

water production 2006-2015 (PDF)

Model Drinking Water User Charge Methodology

Appendix A to User Charge System

This appendix presents the methodology to be used in calculating user charge rates and illustrates the calculations followed in arriving at the first year's user charges. The unit costs established in this appendix are based on estimates of expenses. The actual expenses that occur may differ from these estimates and certainly they will change as time passes. Therefore, the unit cost must be reestablished whenever necessary to reflect actual expenses. Once the system is in use, the expenses can be determined from operating records and the unit costs can be adjusted based on these figures. By using the total water metered to customers as a bases for setting the rate, the cost of water loss is distributed even among users.

1. Expenses: The total annual expenses associated with the treatment works, as defined in article II, Section 8, are estimated as follows:

<u>Item</u>	<u>Annual Expense</u>
Billing and Collection	\$ 458,100.00
Administration	
Debt Service-SRF 2016 Loan	\$ 533,289.00
Financial Audit	
Power/Contractual Service	\$ 269,846.00
Labor (including fringe benefits)	\$ 691,046.00
Material Costs	
Replacement Costs (from Appendix C)	\$ 527,302.00
Chemicals/Commodities	\$ 249,527.00
Capital Outlay	\$ 36,315.00
Lake Harrisonville Watershed Protection	\$ 50,000.00
Other Charges	\$ 33,968.00
Debt Service Coverage	\$ 52,423.00
Other (specify)	\$ -
Other (specify)	\$ -
Total Expenses	\$ 2,901,816.00

Revenues Received from Other Sources

Dedicated Capital Improvement Sales Tax Revenue	\$ -
Other Revenue Fix Fee (Water Tower Cellular Lease)	\$ 53,880.00
Other Revenue (Tap & Connection Fee)	
Total Revenues from Other Sources:	\$ 53,880.00
Total Expenses to be Derived from User Charges:	\$ 2,847,936.00

2. Allocation of Expenses: The total operation and maintenance, including replacement expenses, is allocated in the following manner:

<u>Minimum</u>		<u>Volume</u>	
Billing and Collection	\$ 458,100.00	Power	\$ 269,846.00
Administration	\$ -	Labor (including fringe benefits)	\$ 691,046.00
Debt Service*	\$ 533,289.00	DS Coverage	\$ 52,423.00
Financial Audit	\$ -	Replacement (see Appendix C)	\$ 527,302.00
Anticipated Debt Service	\$ -	Chemicals	\$ 249,527.00
Other (specify)	\$ -	Capital Outlay	\$ 36,315.00
Capital Improvement Sales Tax	\$ -	Lake Harrisonville Watershed	\$ 50,000.00
Other Revenue Fix Fee (specify)	\$ (53,880.00)	Distribution Capital	\$ 33,968.00
		Other Revenue Volume Fee (specify)	\$ -
Total	\$ 937,509.00	Total	\$ 1,910,427.00

* Note: The amount of debt service collected in the minimum bill is reduced by the revenues derived from the dedicated Capital Improvement Sales Tax.

Attachment: DWSRF Rate Model 1-22 (2125 : WATER RATES)



Model Drinking Water User Charge Methodology

3. Annual Metered Water, Billing and, Connection Information

Total water metered to customers	298,704,000	Gallons Per Year
Number of billing periods	12	
Number of Service Connections	3,969	
Flow in Minimum Charge	1,000	Gallons per Month
Flow in Volume Charge	251076000	

4. Volume Charge

Volume Unit Charge	=	$\frac{\text{Annual cost allocated to volume}}{\text{Total water metered to customers}}$
	=	$\frac{\$ 1,910,427.00}{251,076,000}$ N/A
	=	$\$ 0.007609$ per gallon (City's adopted volume charge)
	=	$\$ 7.610000$ per 1000 gallons (rounded up)

5. Minimum Charge

Minimum Charge	=	Annual cost allocated to minimum/Number of service connections/Number of billing periods
	=	$\$ 19.68$

6. Example User Charge

Assume 4,000 gallons used.

User Charge	=	Minimum Charge + [(Gallons Used/1,000) x Volume Charge per 1,000 gallons]
	=	$\$19.68 + [(4,000-1,000/1,000) \times \$7.61]$
	=	$\$ 42.51$ per month

Are rates sufficient?

Annual revenues generated from Minimum Charge	=	Minimum Charge per billing period x Number of Billing Periods x Number of Connections
Annual revenues generated from Minimum Charge	=	$\$19.68 \times 12 \times 3,969$
Annual revenues generated from Minimum Charge	=	$\$ 937,509.00$
Annual revenues generated from Residential Unit Charge	=	Volume Charge x Total Annual Flow in 1000 gallons
Annual revenues generated from Residential Unit Charge	=	$\$7.61 \times 251,076,000/1,000$
Annual revenues generated from Residential Unit Charge	=	$\$ 1,910,688.36$
Total Annual Revenues	=	Annual revenues generated from Minimum Charge + Annual revenues generated from Residential Unit Charge
Total Annual Revenues	=	$\$937,509.00 + \$1,910,688.36$
Total Annual Revenues	=	$\$ 2,848,197.36$
Budget Surplus/(Deficit)	=	Total Annual Revenues - Total Expenses to be Derived From User Charges
Budget Surplus/(Deficit)	=	$\$2,848,197.36 - \$2,847,936.00$
Budget Surplus/(Deficit)	=	$\$261.36$



Model Drinking Water User Charge Methodology

Appendix A to User Charge System

This appendix presents the methodology to be used in calculating user charge rates and illustrates the calculations followed in arriving at the first year's user charges. The unit costs established in this appendix are based on estimates of expenses. The actual expenses that occur may differ from these estimates and certainly they will change as time passes. Therefore, the unit cost must be reestablished whenever necessary to reflect actual expenses. Once the system is in use, the expenses can be determined from operating records and the unit costs can be adjusted based on these figures. By using the total water metered to customers as a bases for setting the rate, the cost of water loss is distributed even among users.

1. Expenses: The total annual expenses associated with the treatment works, as defined in article II, Section 8, are estimated as follows:

<u>Item</u>	<u>Annual Expense</u>
Billing and Collection	\$ 458,100.00
Administration	
Debt Service-SRF 2016 Loan	\$ 533,289.00
Financial Audit	
Power/Contractual Service	\$ 269,846.00
Labor (including fringe benefits)	\$ 691,046.00
Material Costs	
Replacement Costs (from Appendix C)	\$ 527,302.00
Chemicals/Commodities	\$ 249,527.00
Capital Outlay	\$ 36,315.00
Lake Harrisonville Watershed Protection	\$ 50,000.00
Other Charges	\$ 33,968.00
Debt Service Coverage	\$ 52,423.00
Other (specify)	\$ -
Other (specify)	\$ -
Total Expenses	\$ 2,901,816.00
<u>Revenues Received from Other Sources</u>	
Dedicated Capital Improvement Sales Tax Revenue	\$ -
Other Revenue Fix Fee (Water Tower Cellular Lease)	\$ 53,880.00
Other Revenue (Tap & Connection Fee)	
Total Revenues form Other Sources:	\$ 53,880.00
Total Expenses to be Derived from User Charges:	\$ 2,847,936.00

2. Allocation of Expenses: The total operation and maintenance, including replacement expenses, is allocated in the following manner:

<u>Minimum</u>	<u>Volume</u>
Billing and Collection	\$ 181,909.00
Administration	\$ -
Debt Service*	\$ 533,289.00
Financial Audit	\$ -
Anticipated Debt Service	\$ -
Other (specify)	\$ -
Capital Improvement Sales Tax	\$ -
Other Revenue Fix Fee (specify)	\$ (53,880.00)
Total	\$ 661,318.00
Power	\$ 269,846.00
Labor (including fringe benefits)	\$ 691,046.00
DS Coverage	\$ 52,423.00
Replacement (see Appendix C)	\$ 527,302.00
Chemicals	\$ 249,527.00
Capital Outlay	\$ 36,315.00
Lake Harrisonville Watershed	\$ 50,000.00
Distributuion Capital	\$ 33,968.00
Billing and Collection	\$ 276,191.00
Total	\$ 2,186,618.00

* Note: The amount of debt service collected in the minimum bill is reduced by the revenues derived from the dedicated Capital Improvement Sales Tax.



Model Drinking Water User Charge Methodology

3. Annual Metered Water, Billing and, Connection Information

Total water metered to customers	298,704,000	Gallons Per Year
Number of billing periods	12	
Number of Service Connections	3,969	
Flow in Minimum Charge	1,000	Gallons per Month
Flow in Volume Charge	251076000	

4. Volume Charge

Volume Unit Charge	=	$\frac{\text{Annual cost allocated to volume}}{\text{Total water metered to customers}}$
	=	$\frac{\$ 2,186,618.00}{251,076,000}$ N/A
	=	$\$ 0.008709$ per gallon (City's adopted volume charge)
	=	$\$ 8.710000$ per 1000 gallons (rounded up)

5. Minimum Charge

Minimum Charge	=	Annual cost allocated to minimum/Number of service connections/Number of billing periods
	=	$\$ 13.89$

6. Example User Charge

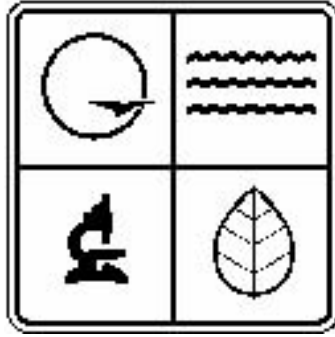
Assume 4,000 gallons used.

User Charge	=	Minimum Charge + [(Gallons Used/1,000) x Volume Charge per 1,000 gallons]
	=	$\$13.89 + [(4,000-1,000/1,000) \times \$8.71]$
	=	$\$ 40.02$ per month

Are rates sufficient?

Annual revenues generated from Minimum Charge	=	Minimum Charge per billing period x Number of Billing Periods x Number of Connections
Annual revenues generated from Minimum Charge	=	$\$13.89 \times 12 \times 3,969$
Annual revenues generated from Minimum Charge	=	$\$ 661,318.00$
Annual revenues generated from Residential Unit Charge	=	Volume Charge x Total Annual Flow in 1000 gallons
Annual revenues generated from Residential Unit Charge	=	$\$8.71 \times 251,076,000/1,000$
Annual revenues generated from Residential Unit Charge	=	$\$ 2,186,871.96$
Total Annual Revenues	=	Annual revenues generated from Minimum Charge + Annual revenues generated from Residential Unit Charge
Total Annual Revenues	=	$\$661,318.00 + \$2,186,871.96$
Total Annual Revenues	=	$\$ 2,848,189.96$
Budget Surplus/(Deficit)	=	Total Annual Revenues - Total Expenses to be Derived From User Charges
Budget Surplus/(Deficit)	=	$\$2,848,189.96 - \$2,847,936.00$
Budget Surplus/(Deficit)	=	$\$253.96$





Missouri Department of Natural Resources

Water Protection Program
Financial Assistance Center

Drinking Water State Revolving Fund
User Charge Ordinance

The Water Protection Program's Financial Assistance Center (FAC) has developed the following draft document for participants in the Drinking Water State Revolving Fund (DWSRF) loan program and other grant and loan programs administered by the FAC. This document may be used as a draft ordinance for cities or as a draft resolution for water districts. For the benefit of the user, the draft document is not protected and participants can modify it to fit their specific needs. This document provides the basic format and information needed for DWSRF projects. However, the actual format it is not a requirement of the DWSRF and the use of this document does not waive the review requirements for participating in the DWSRF.

As part of this document, participants will need to attach to this ordinance or resolution an appendix for the User Charge Budget and Rate Calculations (Appendix A), the Replacement Schedule (Appendix B) and the Annuity Calculations (Appendix C). To help with these Appendices, FAC has designed a DWSRF Rate Calculation Program that may be used to produce these appendices. This program is divided into four tabs titled Instruction, Budget and Rate Calculation, Replacement Schedule and Annuity Calculation). Once the Rate Calculation Program is completed, the tabs titled, "Budget and Rate Calculation", "Replacement Schedule" and "Annuity Calculation" can be printed for use as Appendices A, B and C, respectively.

The Rate Calculation Program can be viewed and downloaded at the following site:
www.dnr.mo.gov/env/wpp/srf/dwsrf-usc-methodology.xls

As mentioned above, this document can be used for cities or water districts. In an attempt to designate the appropriate document language, the suggested modifications related to city ordinances are highlighted in red and the modifications related to water districts have been highlighted in blue. Any other general instructions, suggests or modifications have been highlighted in magenta.

(Ordinance/Resolution) No.

An (ordinance/resolution) establishing a user charge system in the (City/District) of _____, County of _____, State of Missouri, to provide funds needed to pay for all expenses associated with the city's water system.

Whereas, the (City/District) of _____, Missouri has constructed a water system; and

Whereas, the (city/district) must pay all expenses associated with said water system and charge the users of said system accordingly;

NOW, THEREFORE, BE IT ORDAINED BY THE (Board of Aldermen/Board Members), of the (City/District) of _____, Missouri, that the following user charge system be established:

Article I

It is determined and declared to be necessary and conducive to the protection of the public health, safety, welfare, and convenience of the (city/district) to collect charges from all users who use the (city's/district's) water system. The proceeds of such charges so derived will be used for the purpose of operating, maintaining, and retiring the debt for such public water system.

Article II

Unless the context specifically indicates otherwise, the meaning of terms used in this ordinance shall be as follows:

Section 1: "Operation and Maintenance" shall mean all expenditures during the useful life of the system for materials, labor, utilities, and other items which are necessary for managing and maintaining the system to achieve the capacity and performance for which system was designed and constructed.

Section 2: "Replacement" shall mean expenditures for obtaining and installing equipment, accessories, or appurtenances which are necessary during the useful life of the system to maintain the capacity and performance for which such works were designed and constructed. The term "operation and maintenance" includes replacement.

Section 3: "Residential User" shall mean any user of the city's water system whose lot, parcel of real estate, or building is used for domestic dwelling purposes only.

Section 4: "Shall" is mandatory; "May" is permissive.

Section 5: "Water System" shall mean any devices and systems for the storage, treatment, recycling, transmission, and distribution of water. These include transmission and distribution lines, individual systems, pumping, power, and other equipment and their appurtenances; extensions, improvements, remodeling, additions, and alterations thereof; elements essential to provide a reliable water supply such as standby treatment units and any works, including site acquisition of land that will be part of the treatment process.

Section 6: "Winter average use" shall mean average of winter quarter (Dec., Jan., Feb).

Section 7: "Useful Life" shall mean the estimated period during which the treatment works will be operated.

Section 8: "User Charge" shall mean that portion of the total water service charge which is levied in a proportional and adequate manner for the cost of operation, maintenance, and replacement of the water system.

Section 9: "Water Meter" shall mean a water volume measuring and recording device, furnished and/or installed by the (City/District) of _____ or furnished and/or installed by a user and approved by the (City/District) of _____.

Article III

Section 1: The user charge system shall generate adequate annual revenues to pay the costs of annual operation and maintenance including replacement and cost associated with debt retirement of bonded capital associated with financing the water system which the (city/district) may by ordinance designate to be paid by the user charge system. That portion of the total user charge which is designated for operation and maintenance including replacement of the water system shall be established by this (ordinance/resolution).

Section 2: That portion of the total user charge collected which is designated for the operation and maintenance including replacement purposes as established in Article IV, shall be deposited in a separate non-lapsing fund known as the Operation, Maintenance and Replacement Fund and will be kept in two primary accounts as follows:

- a. a. The Operation and Maintenance Account shall be an account designated for the specific purpose of defraying operation and maintenance costs (excluding replacement) of the water system. Deposits in the Operation and Maintenance Account shall be made _____ (at least annually, specify) from the operation and maintenance revenue in the

amount of \$_____ annually.

- b. The Replacement Account shall be an account designated for the purpose of ensuring replacement needs over the useful life of the water system. Deposits in the Replacement Account shall be made _____ (at least annually, specify) from the replacement revenue in the amount of \$ (annually).

Section 3: Fiscal year-end balances in the Operation and Maintenance Account and the Replacement Account shall be carried over to the same accounts in each subsequent fiscal year, and shall be used for no other purposes than those designated for these accounts. Monies which have been transferred from other sources to meet temporary shortages in the Operation, Maintenance, and Replacement Fund shall be returned to their respective accounts upon appropriate adjustment of the user charge rates for operation, maintenance, and replacement. The user charge rate(s) shall be adjusted such that the transferred monies will be returned to their respective accounts within the fiscal year following the fiscal year in which the monies were borrowed.

Article IV

(Actual Use Rate Structure)

Section 1: Each user shall pay for the services provided by the city based on their use of the water system as determined by water meter(s) acceptable to the city.

Section 2: All monthly user charges will be based on monthly water usage.

Section 3: (Reference is made to Appendix A of this ordinance.)

The minimum charge per month shall be \$_____. In addition each user shall pay a user unit charge for operation and maintenance including replacement of \$_____ per 1000 gallons of water as determined in the preceding section.

Section 4: OPTIONAL: For those users which use water at greater than or equal to 50% above their winter average monthly use, a surcharge, in addition to the normal user charge will be collected. For those users provided with fire protection, a surcharge for water used will be collected. The surcharge for peak flow or fire protection that will recover the increased cost of operation and maintenance including replacement is:

\$_____ per 1000 gallons excess peak flow use
 \$_____ per 1000 gallons fire protection
 \$_____ per Other (Specify)

Section 5: The user charge rates established in this article apply to all users of the (city's/district's) system, regardless of the user's location.

Article V

(Note: Billing periods other than monthly are acceptable. Late payment criteria and penalties may be set as the recipient deems appropriate. Criteria set out below are for illustration purposes only.)

Section 1: All users shall be billed monthly. Billings for each month shall be made within thirty days after the end of that month. Payments are due when billings are made. Any payment not received within thirty days after the billing is made shall be delinquent.

Section 2: A late payment penalty of 10 percent of the user charge bill will be added to each delinquent bill for each thirty days of delinquency. When any bill is thirty days in default, water service to such premises shall be discontinued until such bill is paid following due notice and opportunity for hearing. Reconnection fees shall be paid by the customer.

Article VI

Section 1: The (city/district) shall review the user charge system annually and revise user charge rates as necessary to ensure that the system generates adequate revenues to pay the costs of operation and maintenance including replacement and that the system continues to provide for the proportional distribution of operation and maintenance including replacement costs among users and user classes.

Section 2: The (city/district) will notify each user at least annually, in conjunction with a regular bill, of the rate being charged for operation, and maintenance including replacement of the treatment works.

Article VII

This ordinance shall be in full force and effect from and after its passage and approval.

Passed and adopted by the (Board of Aldermen/Board Members) of the (City/District) of _____, State of Missouri on the ____ day of Month, Year, by the following vote:

Ayes _____ namely

Nayes _____ namely

Approved this _____ day of _____,

Signature (Mayor, Chairman)

Name and title, typewritten or printed

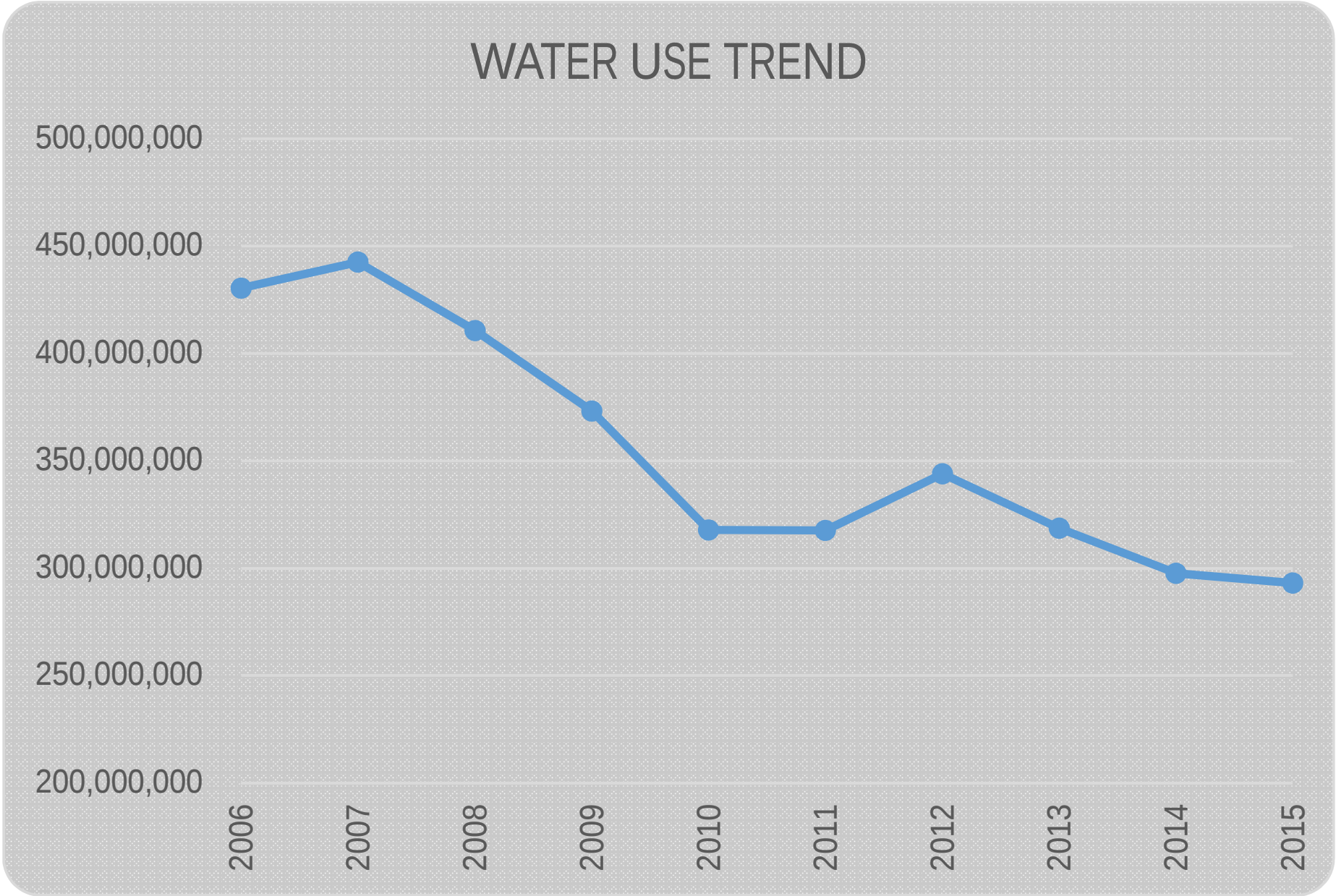
Attest:

Signature

(Clerk, Secretary)

Name and title, typewritten or printed

Attachment: dw-user-charge-ordinance (2) (2125 : WATER RATES)



Attachment: water production 2006-2015 (2125 : WATER RATES)