

CITY OF ANN ARBOR WATER & SEWER COST OF SERVICE STUDY

12.20.2017



Overview

- 1. Revenue Sufficiency Analysis
- 2. Rate Classification
- 3. Cost to Serve
- 4. Rate Structures
- 5. Customer Impacts
- 6. Affordability Program



Foundation of the Rate Study

- 1. Adequate revenue to meet identified requirements
 - Capital, Operating, Debt Service, and Asset Management
- 2. Fair and equitable distribution of cost
 - Last cost of service was performed in 2003
 - Based upon industry best practices and legal requirements
 - Utilizing detailed AMI data unique and better analysis
- 3. Evaluate and address community objectives
 - Affordability through rate and non-rate programs



Revenue Sufficiency Analysis

Water

6% Annual <u>Revenue</u> <u>Requirement</u> increase

- "Smooth" rate increases
- Increased debt service for future WTP Project
- Operating Budget
- Asset management
- Multi-Year capital plans

Sewer

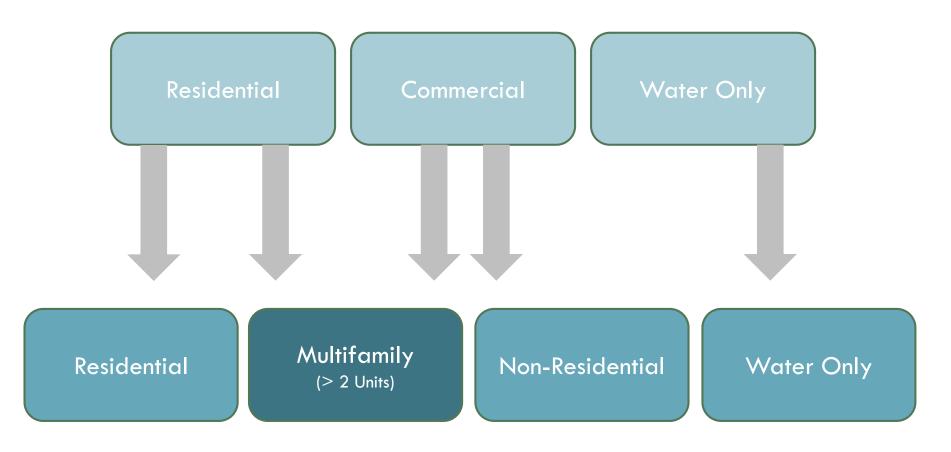
- 7% Annual <u>Revenue</u> <u>Requirement</u> increase
 - "Smooth" rate increases
 - Increased debt service for recent WWTP Project
 - Operating budget
 - Asset management
 - Multi-Year capital plans

Allocatio

Revenue

Requirements

New Rate Classifications

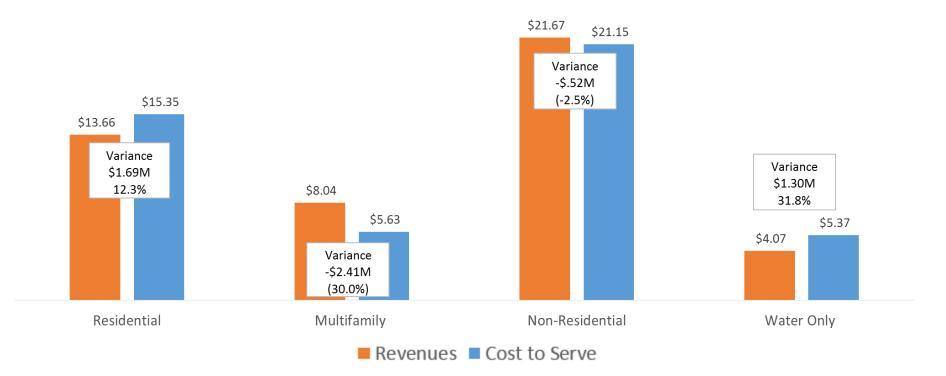


AMI Data was used for FY16 on a daily or hourly basis (where available)



Cost to Serve Variance

Test Year (FY 2018)



*Water and sewer revenue based on FY 2016 billing data and current rates



Proposed Water Rate Design

Residential

- Fixed Charge
- Volumetric Rate*
 - Inclining block
 - 4 Tiers based on data analysis
 - Tier 1 & 2 Indoor use
 - Tier 3 & 4 Outdoor use

Non-Residential, Multi-Family & Water Only

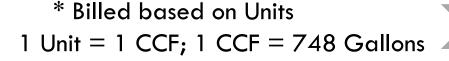
Fixed Charge

Revenue

Requirements

- Volumetric Rate*
 - Uniform (flat) rate based on consumption
 - Water Only does not
 - receive sewer charges

Rate Design

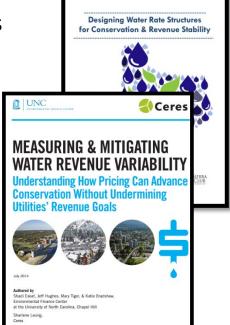


Key Issue: Level of Fixed Charges

- Higher fixed charges provide stability....
 - However, reduces cost allocation and level of conservation rates
 - Impacts affordability for low volume users
- Critical to understand and evaluate:
 - Use of reserve policies to mitigate risk of volatility
 - Current recovery of fixed costs and practices of other systems

Fixed Charge as a % of 18 CCF Quarterly Bill

| | Water Fixed | Sewer Fixed | Total |
|-----------|-------------|-------------|-------|
| Ann Arbor | 21% | 13% | 15% |
| Maximum | 64% | 100% | 65% |
| Minimum | 16% | 13% | 15% |
| Average | 36% | 35% | 35% |



- Rating agencies focus on fixed charges
 - Industry-wide demand reductions & increasing fixed cost awareness
 - Fitch: strong system will recover >=30% of revenue in fixed charges
 - Ann Arbor current collection & proposed = 12.4%

Revenue Cost Requirements Allocation Rate Design Analysis

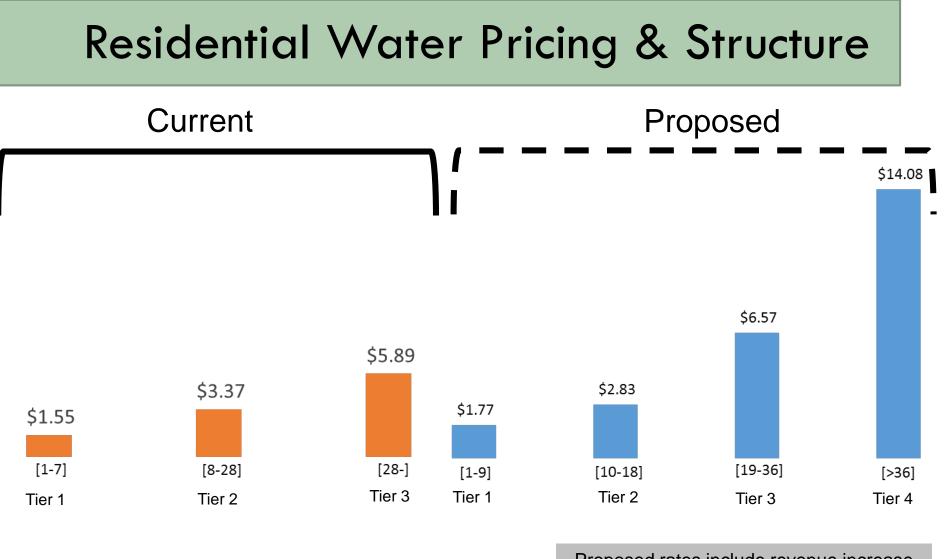
Proposed Quarterly **Water** Fixed Charge Cost Components

Customer Service

Meter Program

Fire Protection





Proposed rates include revenue increase of \$1.9M to conform with cost to serve

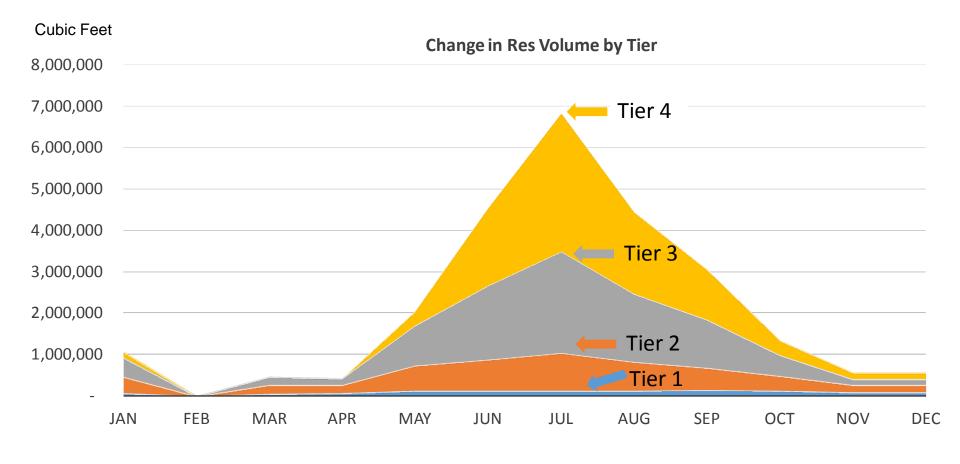
* Rates are per Unit. 1 Unit = 1 CCF; 1 CCF = 748 Gallons

*Rates shown before 10% on time payment discount

Rate Design

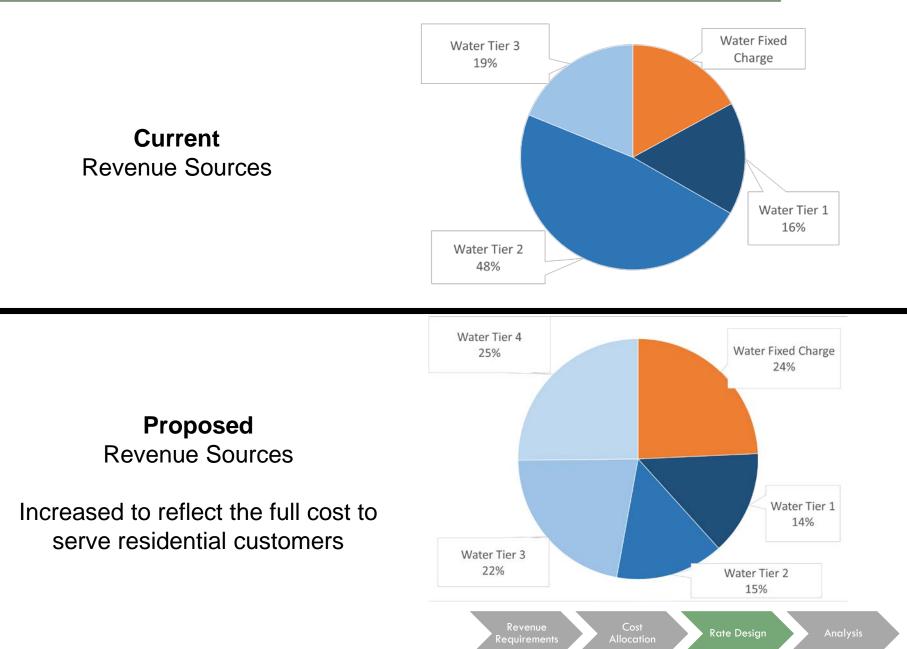
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Residential Water Use Analysis

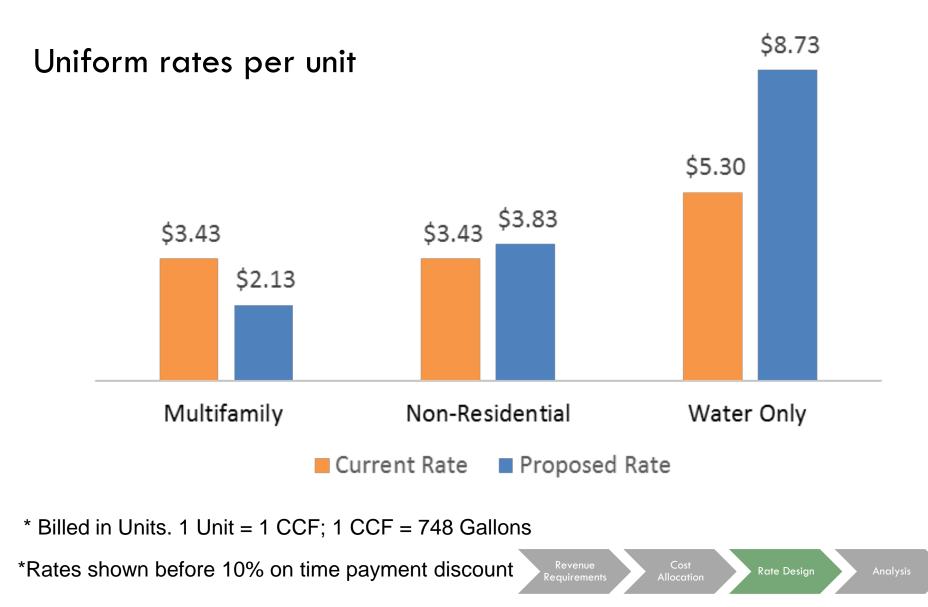




Water Residential Revenue Recovery Sources



Non-Residential, Multifamily and Water Only Volumetric



Proposed Sewer Rate Design

Residential

- Fixed Charge
- Volumetric Rate*
 - Uniform (flat) rate based on metered water use
 - Winter average water use applied in summer months

Non-Residential and Multi-Family

- Fixed Charge
- Volumetric Rate*
 - Uniform (flat) rate based on metered water use

* Billed based on Units 1 Unit = 1 CCF; 1 CCF = 748 Gallons

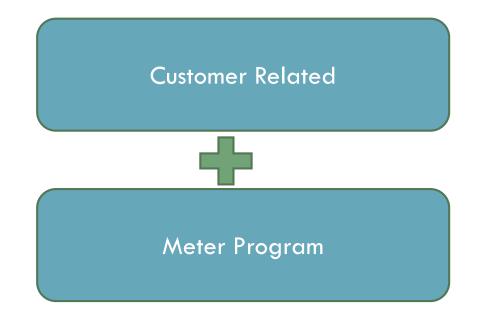


Footing Drain Disconnection (FDD)

- 1. From 2002 to 2012 the FDD Program resulted in the about 1,800 properties disconnecting their of footing drain discharges from the City's sanitary sewer system
- 2. The SSWWE Citizens Advisory Committee asked that a credit or other benefit for FDD Program participants be considered and evaluation was to be done in the rate study
- 3. Alternatively, a surcharge for properties connected to the City's sanitary sewer system could be evaluated
- 4. Challenges:
 - A. Equity: No different than properties that were never connected to the City's sanitary sewer system, or that disconnected for another reason
 - B. Data: Depending on choice of credit or surcharge, would require audit/database of all homes to determine whether connected or not, the reason not connected, ability to disconnect if connected, etc.
 - C. Precedent: Not aware of any credits/surcharges related to footing drain discharges

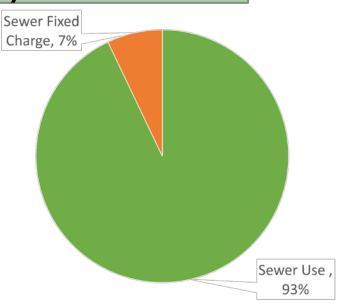


Proposed Quarterly Sewer Fixed Charge Cost Components

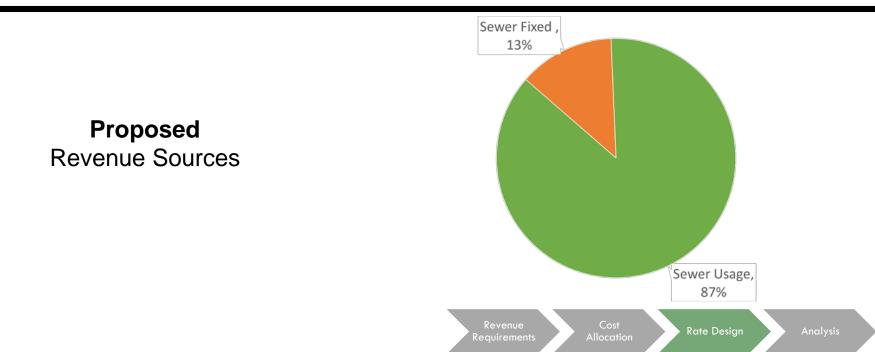




Residential Revenue Recovery Sources

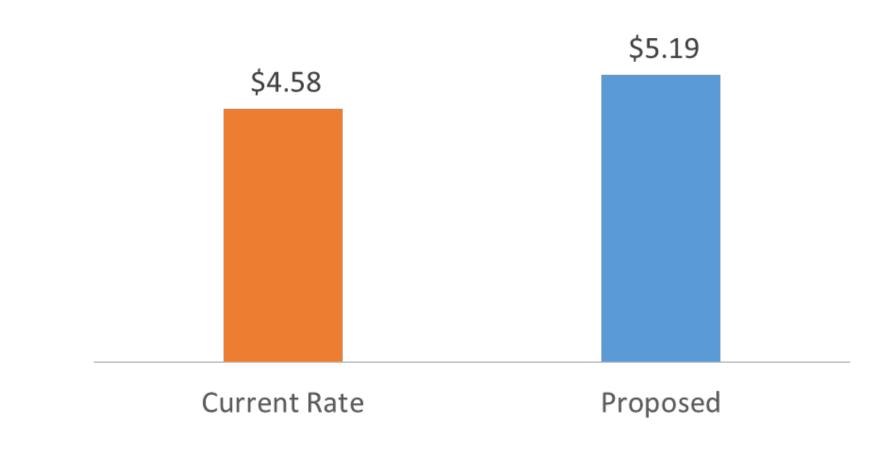


Current Revenue Sources





Sewer Volumetric Rate



* Billed in Units. 1 Unit = 1 CCF; 1 CCF = 748 Gallons

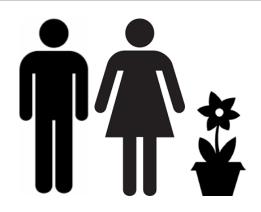
*Rates shown before 10% on time payment discount



Water & Sewer Quarterly Residential Bill Impact

Scenario:

- 5/8' Meter
- Two person household with minimal irrigation
- Bill is increasing to conform with the cost to serve and fixed cost recovery goals



Variance \$14.67 22.2%

Current Proposed

8 CCF = 5,984 Gallons

*Bill shown net 10% on time payment discount

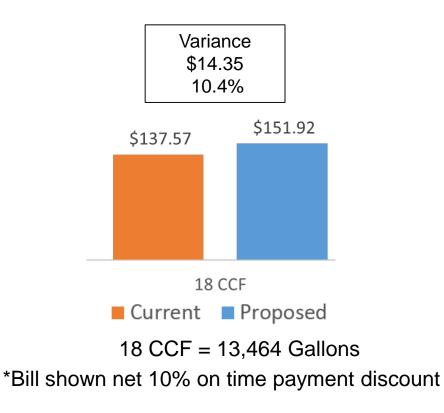


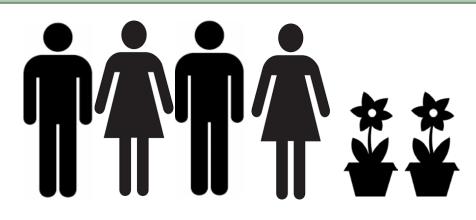
*Bills shown net 10% on time payment discount

Water & Sewer Quarterly Residential Bill Impact

Scenario:

- 5/8' Meter
- Four person household with minimal irrigation
- Bill is increasing to conform with the cost to serve





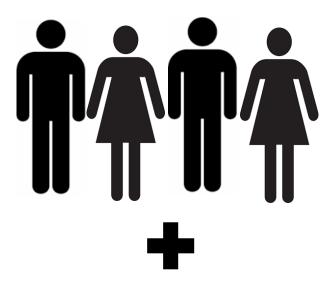




Water & Sewer Quarterly Residential Bill Impacts

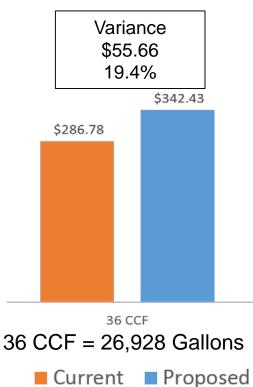
Scenario:

- 5/8' Meter
- Four person household with efficient irrigation
- Bill is increasing to conform with the cost to serve









*Bill shown net 10% on time payment discount



Comparison of Residential Water & Sewer Bills

Combined Water & Sewer Bill Survey at 18 CCF Quarterly

| Port Huron | \$243.06 |
|-----------------------|----------|
| East Lansing | \$203.49 |
| Bloomington, IN | \$202.10 |
| State College, PA | \$192.24 |
| Champaign, IL | \$179.43 |
| Grand Rapids | \$177.87 |
| Iowa City | \$169.59 |
| Columbus, OH | \$163.50 |
| Minneapolis | \$153.84 |
| Ann Arbor (Proposed)* | \$151.92 |
| West Lafayette, IN | \$146.41 |
| Madison, WI | \$144.90 |
| Ann Arbor* | \$137.57 |
| Ypsilanti | \$128.34 |
| Evanston, IL | \$120.72 |

*Bill shown net 10% on time payment discount

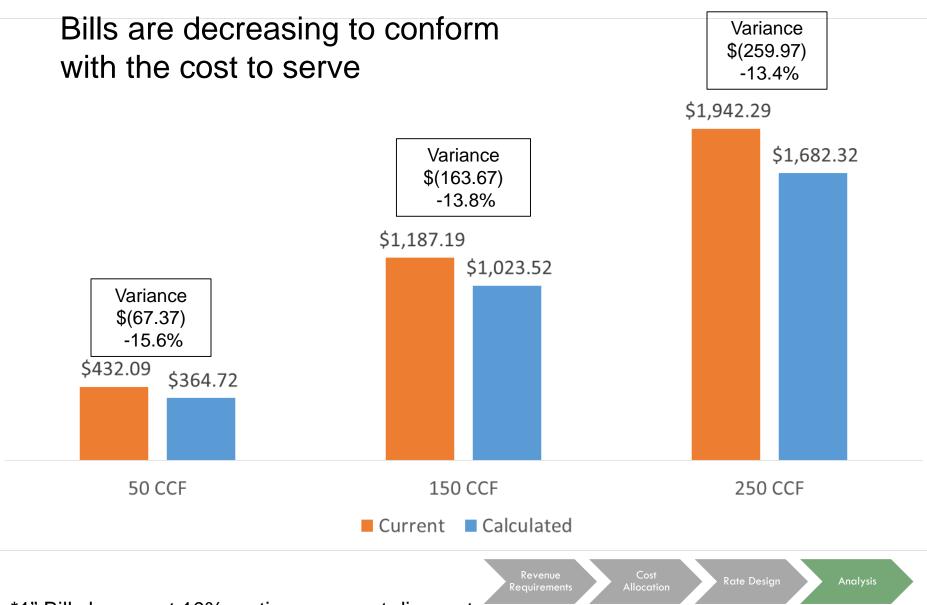


Select Water & Sewer Quarterly Non-Residential Bill Impacts

| Туре | С | urrent | Pr | roposed | Cha | ange \$ | Change % |
|---------------------|----|--------|----|---------|-----|---------|----------|
| Grocery Store | \$ | 8,002 | \$ | 7,573 | \$ | (429) | -5% |
| Deli | \$ | 4,747 | \$ | 4,434 | \$ | (313) | -7% |
| Pub | \$ | 3,883 | \$ | 3,667 | \$ | (216) | -6% |
| Brewery | \$ | 2,660 | \$ | 2,550 | \$ | (110) | -4% |
| Teen Center | \$ | 166 | \$ | 171 | \$ | 5 | 3% |
| Specialty Store | \$ | 288 | \$ | 288 | \$ | - | 0% |
| Hotel | \$ | 24,319 | \$ | 23,031 | \$ | (1,288) | -5% |
| Professional Office | \$ | 1,613 | \$ | 1,436 | \$ | (178) | -11% |
| Dry Cleaners | \$ | 430 | \$ | 441 | \$ | 11 | 3% |
| Hospital | \$ | 29,143 | \$ | 27,672 | \$ | (1,471) | -5% |

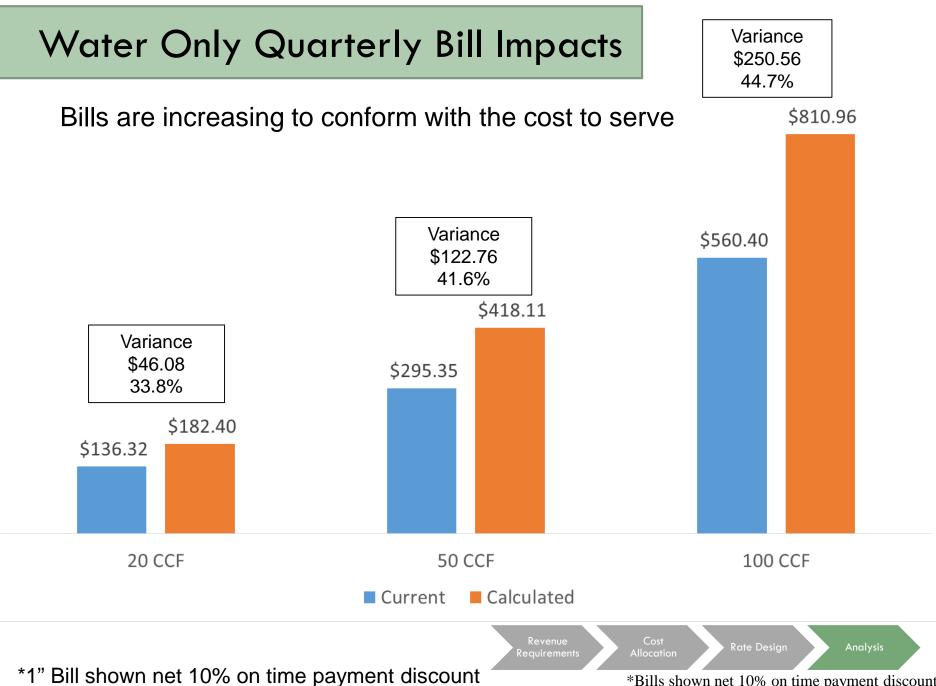
*Bill shown net 10% on time payment discount

Water & Sewer Quarterly Multifamily Bill Impacts



*1" Bill shown net 10% on time payment discount





*Bills shown net 10% on time payment discount

Affordability Next Steps

Rate study affordability: All rates reflect the cost to serve

Developed Profiles of Different Ratepayers with Affordability Challenges



Affordability beyond rates:

- Pilot initiative to improve customer engagement
- Improve ease of access to existing services
- Water affordability advisory group

Revenue Requirements Cost Allocation Rate Design Analysis Implementation

Current Affordability Program Summary

- Barrier Busters Ann Arbor Assistance Fund
 - Crisis intervention
- Leak credit
- Payment plan option
- Identification of total needs & piloting and evaluation of programs

Project Next Steps

- Presentation to Administrator & City Leadership
- Presentation to City Council
- Continue Communication Efforts