Water Meter Downsize Reimbursement

Presented by

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Meter History

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How did we get here?

• To promote transparency, the Public Works and Utilities Department and Office of Billing and Collections has worked closely to review the complaints received related to the meter downsizing process.

• From May 2017 to June 2019, 33 customers have downsized their meters.
The Technical Component of Downsizing

By
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General Manager of Public Utilities
The Basis for Downsizing

• To date, the meter downsizing process is initiated at the sole request of the customer.

• Monthly Capacity fees charged by the City are a fixed fee and are incurred regardless of usage.

• A large number of residential customers have 1” water meters, many of which do not have a need for the increased flow capacity of a larger meter.
Water and Sewer Bill Comparison for Downsizing

Total Water/Sewer Bill Comparison

- Total Monthly Bill (5/8")
- Total Monthly Bill (1")

Bill Amount ($) vs. Monthly Consumption (kgals)

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Water Meter Basics for Residential Customers

- Water meter sizing is conducted in accordance with American Water Works Association (AWWA) Manual of Practice M6.

- Sizing is based on anticipated peak, instantaneous consumption.

- Typical flow from a faucet, shower, or hose is 1 – 3 GPM. Meter sizing standards look at a “worst-case” scenario where all fixtures are running at once.

- Meters can vary by both size and type. Sizes variation accommodates flow rate, while different types accommodate the flow pattern. There’s a meter for every situation. For example:
  - Turbine meters have very high accuracy for high volumes but are fairly inaccurate for low flows. These are great for Industrial or heavy commercial use.
  - Positive Displacement meters have high accuracy for very small volumes but are inefficient for high volumes. These are great for small residential or commercial use.
How are Meters Sized?

- AWWA specifications are the basis for sizing meters.
- Typical single-family dwellings (SFD) default to a 5/8” (5/8” x 3/4”) meter.
  - Anything larger is typically an exceptional situation.
- Based on Fixture Count
  - Plumbing Code calculations used to equate plumbing fixtures based on flow rate.
- Commercial and Industrial customers submit a meter sizing form at the time their site plans are reviewed.
- Customers may request upsizes (beyond what calculations indicate) if they know their consumption is likely to change in the near future.
Hydraulic Characteristics of Residential Meters

Notes:
1. Data is reproduced from Zenner performance curves for PMN Series Multi-Jet Meters.
2. Horizontal Axis is logarithmically scaled for display purposes.

Within normal ranges, both 5/8” and 1” meters have similar accuracy and efficiency. Headloss (pressure loss due to friction) is very small for both.
Pressure and Volume

- A typical house might have upwards of 40’ of service line (usually 3/4” diameter, Type-K copper or galvanized steel or lead).
  - At 10 GPM, there’s 5 PSI of pressure loss in 40’ of 3/4” copper tube.
  - Old pipes and fittings, or semi-closed valves in a house can also add to pressure loss.
- Meters do get clogged, but they are typically not the bottleneck to pressure or volume issues within a house.

The Utilities Division of Public Works can perform pressure checks at a customer’s residence, upon request.
Financial Impact

• **Connection Fees are not reimbursed upon downsizing a meter.**
  
  • The connection fee constitutes an equity payment by new and existing customers for a portion of the previously existing capital assets of the system. Connection fees also constitute a contribution to a long-term capital improvement program for the utility system which includes acquisition of additional capacity, construction of water storage and transmission facilities, and construction of sewer trunk lines and pumping facilities.

• Additionally, downsizing a meter results in the customer’s loss of “equity” in the system. In the event that the customer needed to upsize back to a 1” meter, the City would collect the difference between the 5/8” and 1” fees.

• Long-term impact on operating revenue will need to be evaluated.
Can every 1” meter be downsized? No, they can’t…

- Many of the 1” residential meters may be required to accommodate higher-than-average consumption.
- Specific examples include:
  - Large homes with numerous residents.
  - Homes with irrigation systems (not all irrigation systems are metered separately.)
  - Residences with accessory dwellings (in-law apartments, live-in garages, etc.)
  - Residences with in-home businesses.
  - Residences with sprinkler systems.

Downsize requests have to be evaluated on a case-by-case basis.
The Meter Downsize Process

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Operations Manager of Public Works and Utilities
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Once all prerequisites have been met:

- An Administrator contacts the customer to schedule an appointment with the customer to assess the job.
- Once the cost has been determined, the Administrative Assistant will forward a cost estimate to the customer.
- Once the customer submits proof of payment or payment confirmed by Billing and Collections, a call is made to the customer to schedule the job.
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Materials

- 2- 5/8 inch reducers
- 2 -1 inch expansion joint
- 5/8” new meter
- 1-5/8” ERT connection
- 1-Pvc pipe to secure ERT
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Customer’s Name & Address:  
Standard itemized costs to change 1” meter to a 5/8” meter

- Labor - $
  - (1) Construction Crew personnel - 1hr minimum = $16.91
- Equipment - $
  - (1) Construction vehicle - 1hr minimum = $30.00
  - Excavator $66.00 (PER HR - IF REQUIRED)
- Materials -
  - 2 - 5/8” inch reducers $33.34
  - 2 - 1” inch expansion joint (45.70 each x 2) $91.39
  - 5/8” new meter $97.00
  - 1-5/8” ERT connection $75.00
  - 1-1/2” pipe to secure ERT $3.00
  - Total cost to change meter 1” to 5/8” $346.64

Material Credit
- 1” old meter Cost - $90.00
- 10% return of 1 inch old meter - $9.00

Total cost to change meter 1” to 5/8” = $337.64
Reimbursement Options and Requirements

By
Jason Baxter, BA
Billing and Collections Manager
Customers:

- Can request a physical check be executed for them
  - If there are any delinquent taxes or utility accounts currently, those taxes will be paid by this credit until all delinquent taxes are paid in full.
  - If applicable, the remainder of the credit will be disbursed to the customer via physical check (*minimum $75 is required*).

- Can request that the credit can be applied to their current utility, personal property, real estate account for future bills.
  - If there are any delinquent taxes or utility accounts currently, those taxes will be paid by this credit until all delinquent taxes are paid in full.
  - If applicable, the remainder of the credit will rest on the customer account of their choice (PP, UT, RE, etc.)
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