

# Proposed Water and Sewer Rates Recommendation

June 27, 2019

# Team Members

- Kevin Williams – Director of Public Works
- Bruce Williams – Property Owner
- Deb Ward – Property Owner
- Roger Truitt – Property Owner
- Michael Strange – Property Owner
- Sharon Lynn – City Manager
- Burt Dukes – Finance Director
- Matt Abrahams – Rate Consultant

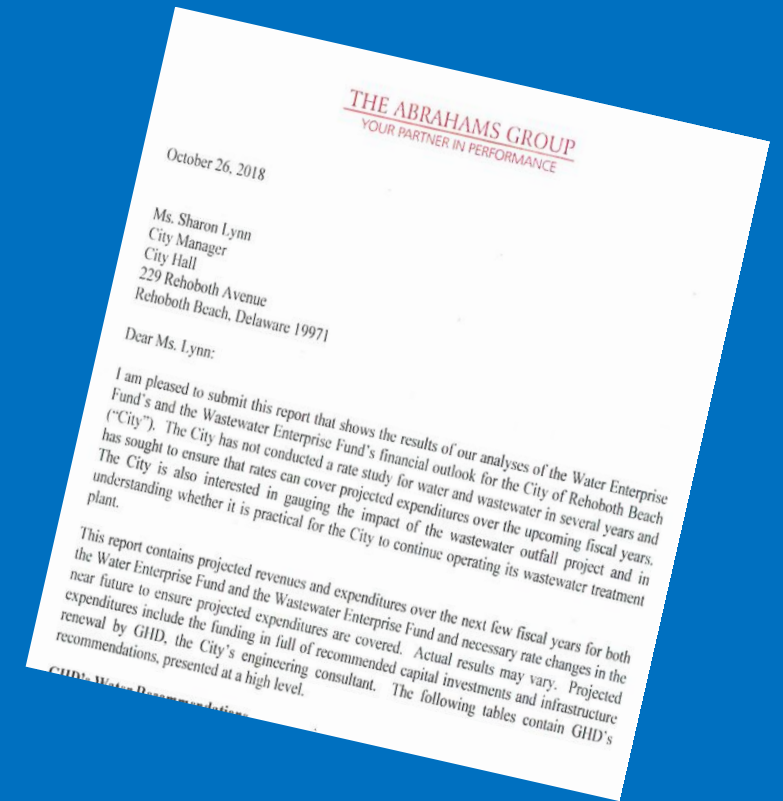


## Mission

**Develop a Rate Structure that meets our fiscal requirements which is Fair and Equitable. Do not protect any particular user group.**

# Initial Guidance

- Ensure the process:
  - Builds upon Abrahams' Oct 2018 report
  - Provides for necessary O&M and CIP costs
  - Is technically sound
  - Is sustainable over time
  - Includes debt service, system access, usage
  - Accounts for seasonality of the community
  - Generates public and expert support
  - Simplifies the process





# Wastewater System



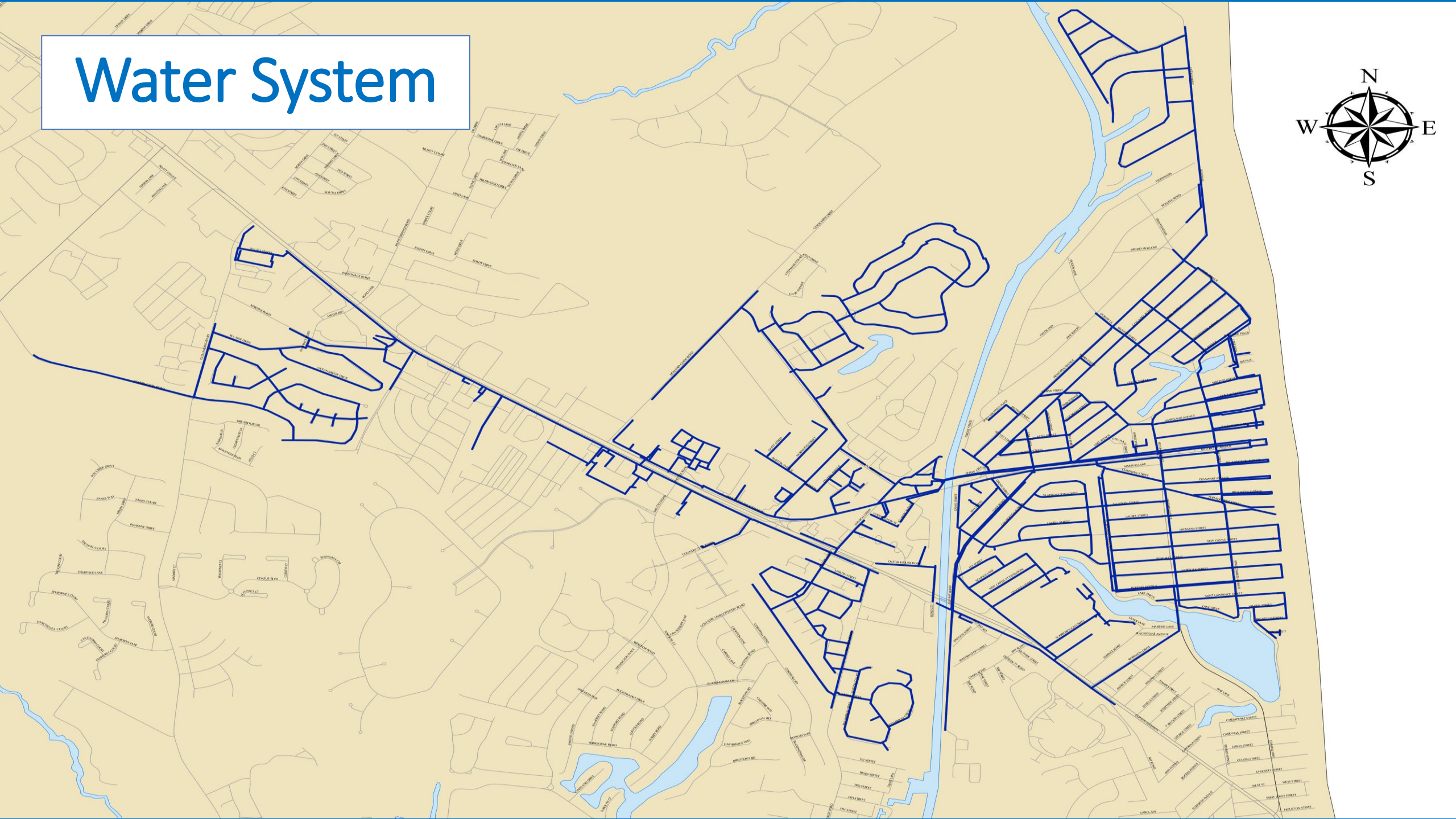
# Existing Sewer Users

- In-City Residents (47%) - 166MG
- North Shores (5%) - 19MG
- Henlopen Acres (5%) - 19MG
- Dewey (43%) - 151MG
- Avg Annual Flow: 355MG





# Water System



# Existing Water Users

**In-City Residents (31%) – 140MG**

**Out-of-Town (29%) – 135MG**

**Breezewood (2%) – 7.5MG**

**Dewey (38%) – 176MG**

**Avg Annual Flow: 458MG**

|             | 1"             | 1 1/2" | 2" | 3" | 4" | 6" | Total |
|-------------|----------------|--------|----|----|----|----|-------|
| In Town     | 2328           | 65     | 35 | 17 | 2  | 1  | 2448  |
| Out of Town | 2652           | 34     | 39 | 8  | 1  |    | 2734  |
| Breezewood  | 198            |        |    |    |    |    | 198   |
| Total       | 5178           | 99     | 74 | 25 | 3  | 1  | 5380  |
| Dewey       | Wholesale Only |        |    |    |    |    |       |



# Existing Conditions – Wastewater





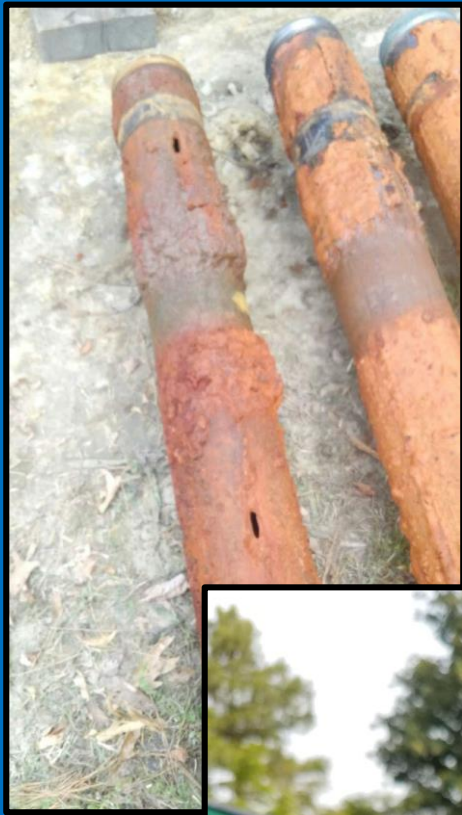




# Existing Conditions - Water







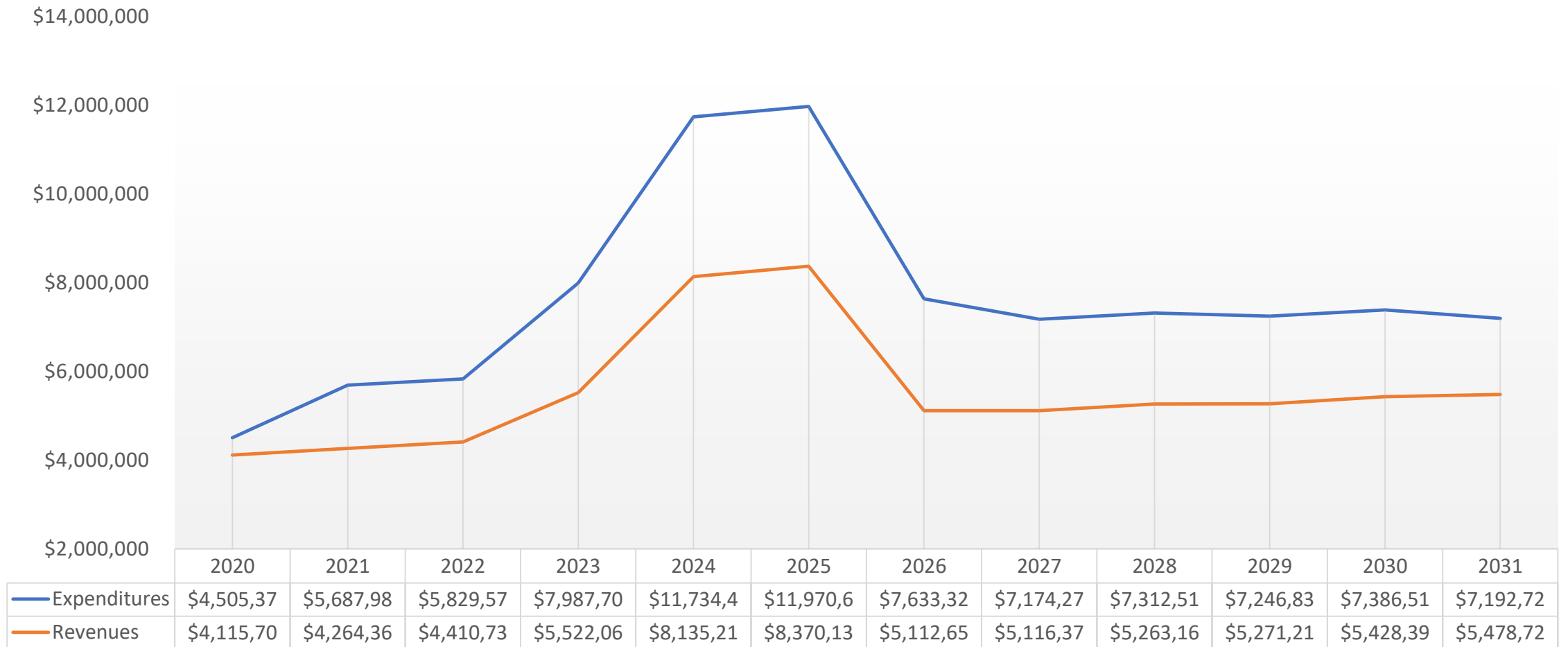
# Rate History

|                  | 1"                       | 1 ½"             | 2"               | 3"             | 4"              | Non-Peak                  | Peak          |
|------------------|--------------------------|------------------|------------------|----------------|-----------------|---------------------------|---------------|
| <b>WATER</b>     | <b>Maintenance Fee**</b> |                  |                  |                |                 | <b>Rate per 1000 gals</b> |               |
| <b>2000</b>      | <b>\$6.15</b>            | <b>\$8.60</b>    | <b>\$11.10</b>   | <b>\$17.85</b> | <b>\$67.65</b>  | <b>\$1.08</b>             | <b>\$1.74</b> |
| <b>2006</b>      | <b>\$8.25</b>            | <b>\$11.60</b>   | <b>\$14.90</b>   | <b>\$23.95</b> | <b>\$90.65</b>  | <b>\$1.45</b>             | <b>\$2.32</b> |
| <b>2010</b>      | <b>\$9.50</b>            | <b>\$13.35</b>   | <b>\$17.15</b>   | <b>\$27.55</b> | <b>\$104.25</b> | <b>\$1.67</b>             | <b>\$2.67</b> |
| <b>2016</b>      | <b>\$9.50</b>            | <b>\$13.35</b>   | <b>\$17.15</b>   | <b>\$27.55</b> | <b>\$104.25</b> | <b>\$2.10</b>             | <b>\$3.10</b> |
| <b>SEWER</b>     |                          |                  |                  |                |                 |                           |               |
| <b>2000</b>      | <b>\$9.30</b>            | <b>\$13.00</b>   | <b>\$16.75</b>   | <b>\$27.00</b> | <b>\$511.00</b> | <b>\$3.17</b>             | <b>\$4.65</b> |
| <b>2006</b>      | <b>\$12.09</b>           | <b>\$16.90</b>   | <b>\$21.78</b>   | <b>\$35.10</b> | <b>\$664.30</b> | <b>\$4.12</b>             | <b>\$6.05</b> |
| <b>SURCHARGE</b> |                          |                  |                  |                |                 |                           |               |
| <b>2009: 10%</b> | <b>2010: 20%</b>         | <b>2011: 35%</b> | <b>2012: 50%</b> |                |                 |                           |               |

\*\* 1" Meters Billed Quarterly  
> 1" Meters Billed Monthly

# Revenue vs. Costs – Current Situation (Wastewater)

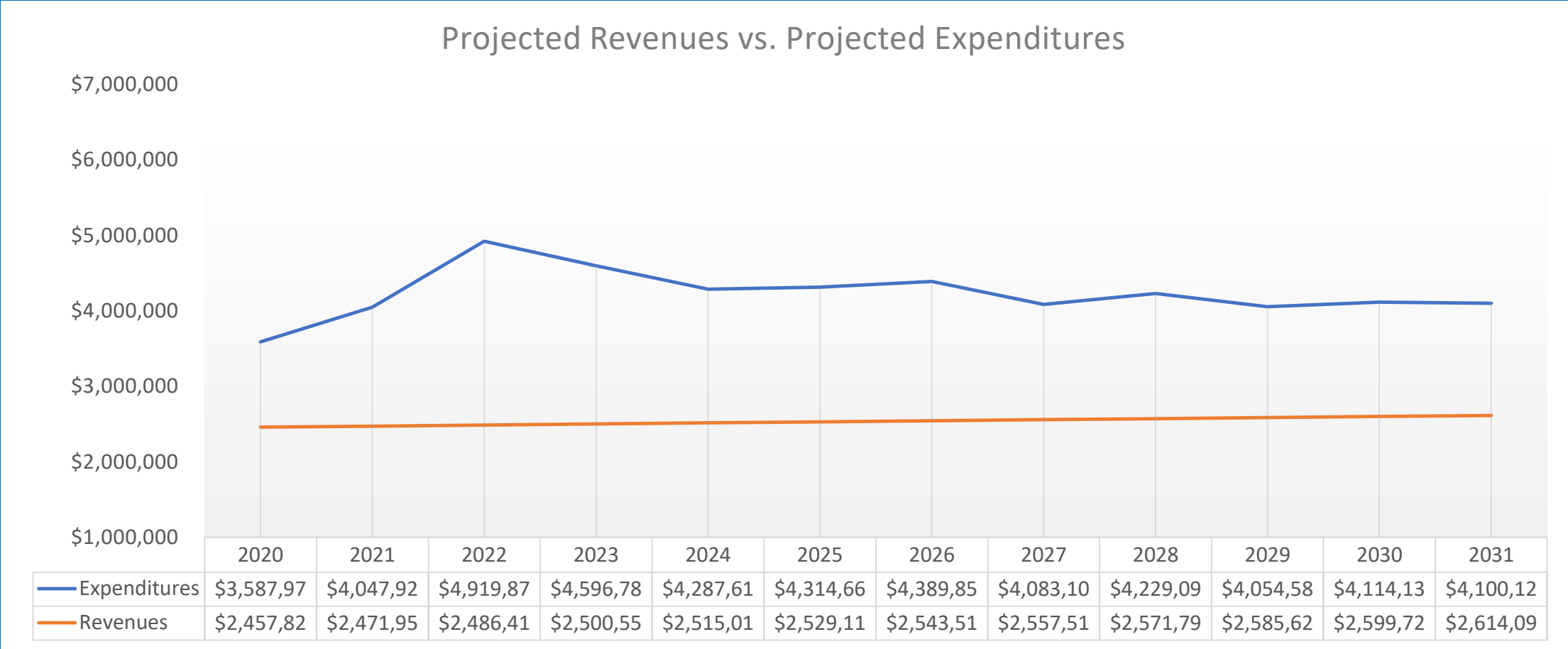
Projected Revenues vs. Projected Expenditures





# Revenue vs. Costs – Current Situation

## (Water)



# Summary of Loans

| LOAN            | ORIGINAL LOAN CAPACITY | INTEREST RATE (%) | MATURITY   | AMOUNT DRAWN | REMAINING BALANCE | REMAINING CAPACITY |
|-----------------|------------------------|-------------------|------------|--------------|-------------------|--------------------|
| City Hall       | \$18,000,000           | 2.375             | 12/22/2041 | \$18,000,000 | \$17,327,683      | \$0                |
| Schoolvue Sewer | \$450,000              | 3.000             | 11/1/2023  | \$450,000    | \$287,126         | \$0                |
| Lynch Well WTP  | \$5,000,000            | 2.760             | 11/1/2027  | \$5,000,000  | \$2,948,971       | \$0                |
| SRF Outfall     | \$40,481,095           | 2.000             | 3/1/2043   | \$38,841,303 | \$38,841,303      | \$1,639,792        |
| SRF WWTP        | \$12,000,000           | 2.000             | 3/1/2038   | \$2,682,639  | \$2,682,639       | \$9,317,361        |
| WWTP Phase 2    | \$4,740,000            | 0.0/2.0           | 5/1/2030   | \$4,740,000  | \$4,740,000       | \$0                |
| Total:          | \$80,431,095           |                   |            | \$69,713,942 | \$66,827,722      |                    |

City Debt Limit: \$75,000,000

# Methodology – Assumptions

- **Maintain existing agreements**
  - **Sewer**
    - **Dewey Beach**
    - **Henlopen Acres**
    - **North Shores**
  - **Water**
    - **Dewey Beach**
    - **Breezewood**
    - **Out-of-Town**
- **Reduce reliance on Meter-size as a differentiator**
- **Borrowing capacity available for Phase 3 (\$10M)**
- **Borrowing capacity not available for Phase 4 (\$14M)**



# Methodology - Process

- **Examine other communities**
  - Local
  - Similar / Seasonal Fluctuations
  - National
- **Evaluate best practices**
  - American Water Works Association (AWWA)
  - Water Environment Federation (WEF)
- **Minimum Usage Fee**
- **Ready to Serve Fee**
  - Recover Administrative Costs
- **Consumption Fee**
  - “Use More, Pay More”
  - “Use Less, Pay Less”

# Methodology – Ready to Serve Fee

- Capture/Cover Administrative Costs
  - Admin Cost Allocation Tab
- Revenue Recovery
  - Per Bill Recovery
  - Equivalent Meter Method – Cost
  - Equivalent Meter Method – Capacity

## Equivalent Meter Method – Capacity

| Meter Size<br>(in inches)  | Maximum Flow<br>(in gpm*) | Factor based on<br>1" meter |
|----------------------------|---------------------------|-----------------------------|
| 1                          | 50                        | 1.00                        |
| 1.5                        | 100                       | 2.00                        |
| 2                          | 160                       | 3.20                        |
| 3                          | 300                       | 6.00                        |
| 4                          | 500                       | 10.00                       |
| 6                          | 1,000                     | 20.00                       |
| * gpm = gallons per minute |                           |                             |



# Equivalent Meter Method – Capacity

| Equivalent Meters Calculations |               |                         |                   |                    | Ready to Serve Calcs – Based on Equiv. Meters |                     |                   |               |
|--------------------------------|---------------|-------------------------|-------------------|--------------------|---|---------------------|-------------------|---------------|
| Meter Size (inches)            | No. of Meters | Equivalent Meter Factor | Equivalent Meters | Equivalent Meter % | Costs per Meter Size                          | RTS Charge per Bill | RTS Charge Annual | Total Revenue |
| 1                              | 2,233         | 1.00                    | 2,233             | 86.9%              | \$ 126.98                                     | \$ 31.75            | \$ 126.98         | \$ 283,553.29 |
| 1.5                            | 59            | 2.00                    | 118               | 4.6%               | \$ 253.97                                     | \$ 21.16            | \$ 253.97         | \$ 14,984.01  |
| 2                              | 31            | 3.20                    | 99                | 3.9%               | \$ 406.35                                     | \$ 33.86            | \$ 406.35         | \$ 12,596.72  |
| 3                              | 15            | 6.00                    | 90                | 3.5%               | \$ 761.90                                     | \$ 63.49            | \$ 761.90         | \$ 11,428.48  |
| 4                              | 1             | 10.00                   | 10                | 0.4%               | \$ 1,269.83                                   | \$ 105.82           | \$ 1,269.83       | \$ 1,269.83   |
| 6                              | 1             | 20.00                   | 20                | 0.8%               | \$ 2,539.66                                   | \$ 211.64           | \$ 2,539.66       | \$ 2,539.66   |
| Totals                         | 2,340         |                         | 2,570             | 100.0%             |   |                     | Total             | \$ 326,372.00 |

| Calculation of Costs per Equivalent Meter |              |
|---|--------------|
| Total Administrative Costs                | \$326,372.00 |
| Total Equivalent Meters                   | 2,570        |
| Cost per Equivalent Meter                 | \$126.98     |

# Methodology – Consumption Rate

- Seasonal demands
- Fixed costs / Non-fixed costs
  - Year-round (base) flow / incremental (peak) flow
  - April – September: peak period
  - October – March: non-peak period
  - Cost Allocation Tab
- Distributed fixed costs against year-round operation
  - Fixed rate
- Distributed non-fixed costs against incremental flow
  - Non-fixed rate
- Consumption Rate determined by summing Fixed and Non-fixed rates

# Methodology – Options

- **Variable vs. Level Rates**

- 1-yr Rates
- Predictability/Consistency
- Level Rates
  - 2-yr, 3-yr, 4-yr, 6-yr options
- Recommended Option: 4-yr level rate
  - 3<sup>rd</sup> year review/check

- **General Fund Support**

- Wastewater - No
- Water - Yes

- **Reserves**

- **Wastewater**

- \$300k Capital Reserve
- \$300k Operational Reserve

- **Water**

- \$100k Capital Reserve
- \$100k Operational Reserve

- **Remaining Surcharge Funds**

- \$1.5M

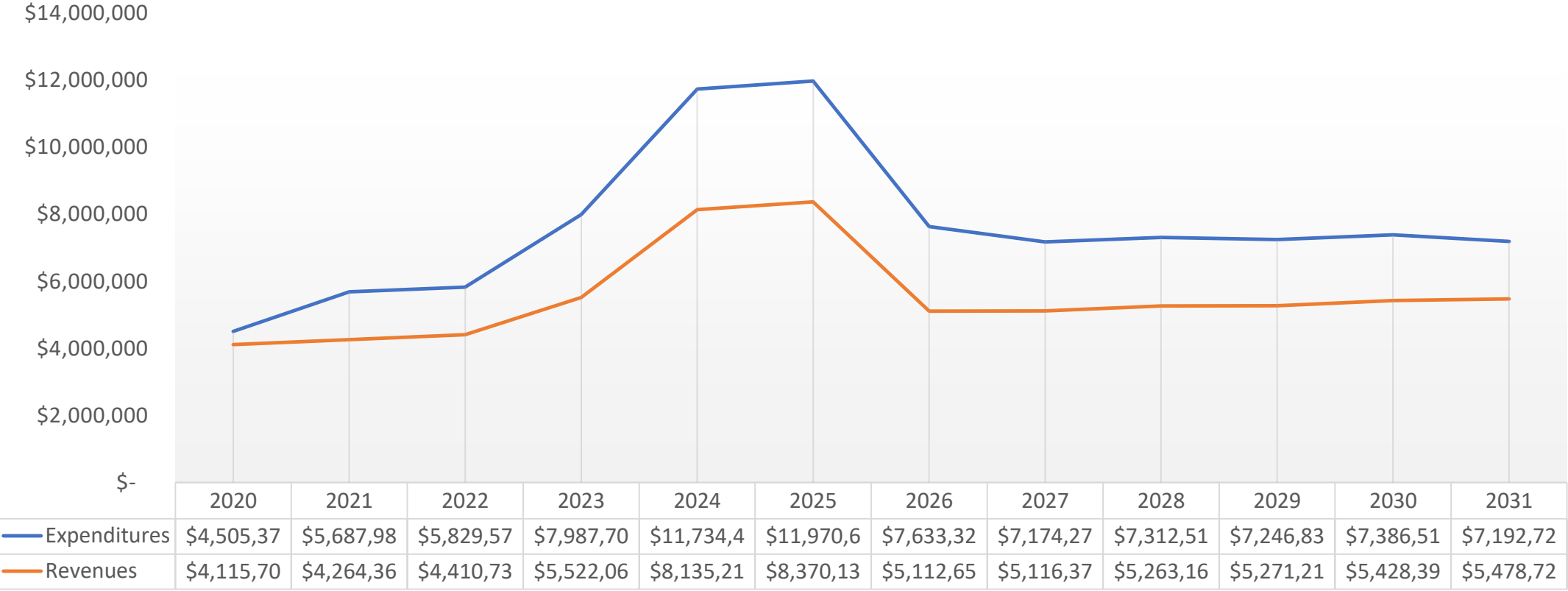


WASTEWATER

# Revenue vs. Costs – Current Situation

## (Wastewater)

Projected Revenues vs. Projected Expenditures



# 4-Yr Level Rate Term

## (Wastewater)

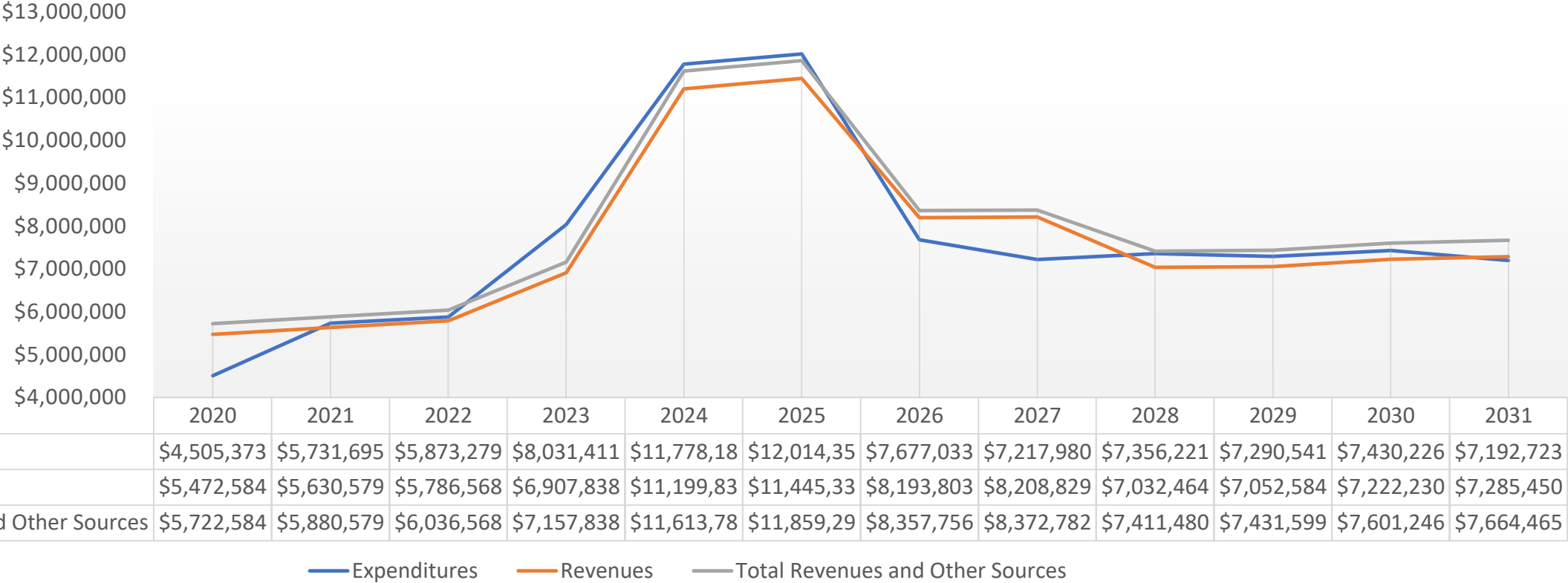
|                        |            |          | SEWER RATES & BILL CODES<br>(2018/Interim/Proposed)<br>(Includes Sewer Surcharge for 2018 and Interim Rates) |            |          |                         |             |            |          |         |        |         |             |
|------------------------|------------|----------|--|------------|----------|-------------------------|-------------|------------|----------|---------|--------|---------|-------------|
|                        |            |          | Ready to Serve<br>(Per Bill)   |            |          | Ready to Serve (Annual) |             |            | Non-Peak |         | Peak   |         | Year-Around |
|                        | Class Code | Size     | 2018   | Interim    | Proposed | 2018                    | Interim     | Proposed   | 2018     | Interim | 2018   | Interim | Proposed    |
| FLOW:<br>(per 1000gal) | S1         | ALL      |  |            |          |                         |             |            | \$6.18   | \$9.89  | \$9.08 | \$14.52 | \$14.70     |
|                        | 61         | 1" & (-) | \$18.14  | \$29.02    | \$31.05  | \$72.54                 | \$116.06    | \$124.19   |          |         |        |         |             |
|                        | 62         | 1.5"     | \$25.35  | \$40.56    | \$30.11  | \$304.20                | \$486.72    | \$361.27   |          |         |        |         |             |
|                        | 63         | 2"       | \$32.67  | \$52.27    | \$37.63  | \$392.04                | \$627.26    | \$451.59   |          |         |        |         |             |
|                        | 64         | 3"       | \$52.65  | \$84.24    | \$75.26  | \$631.80                | \$1,010.88  | \$903.17   |          |         |        |         |             |
|                        | 65         | 4" & (+) | \$996.45   | \$1,594.32 | \$150.53 | \$11,957.40             | \$19,131.84 | \$1,806.34 |          |         |        |         |             |
|                        | 65         | 6"       |  |            | \$301.06 |                         |             | \$3,612.69 |          |         |        |         |             |



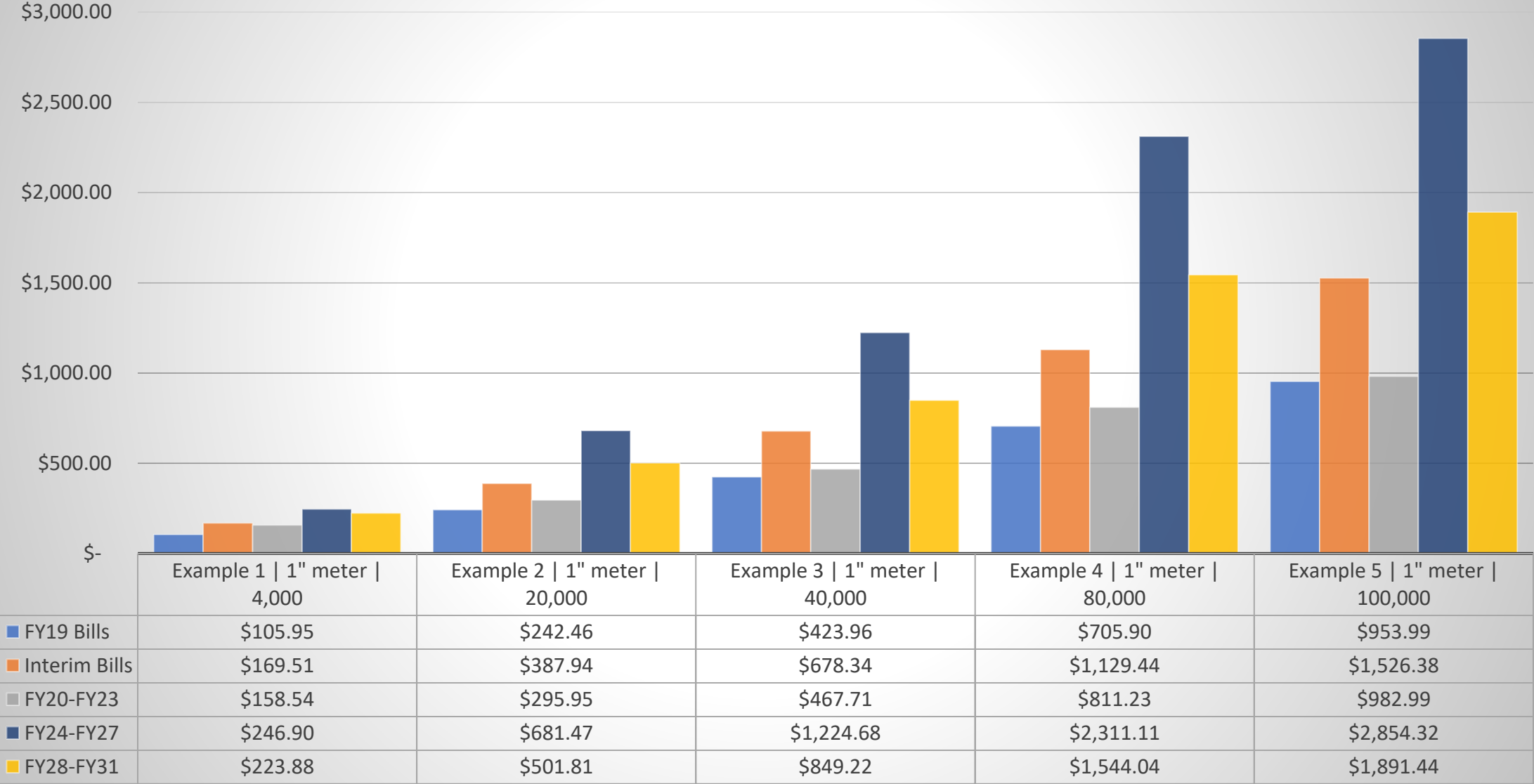
# 4-yr Level Rate Term

## (Wastewater)

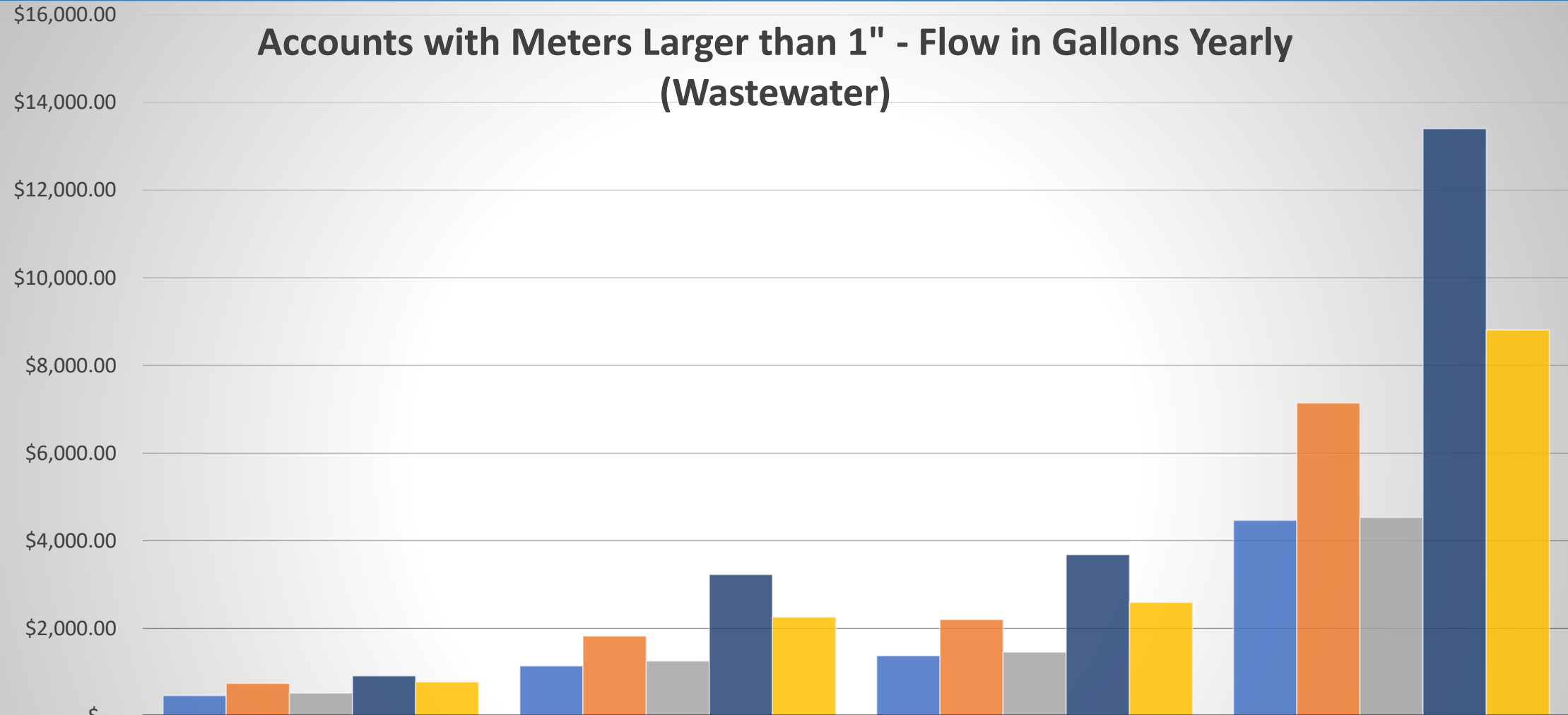
Projected Revenues vs. Projected Expenditures



# Accounts with 1" Meters - Flow in Gallons Yearly (Wastewater)



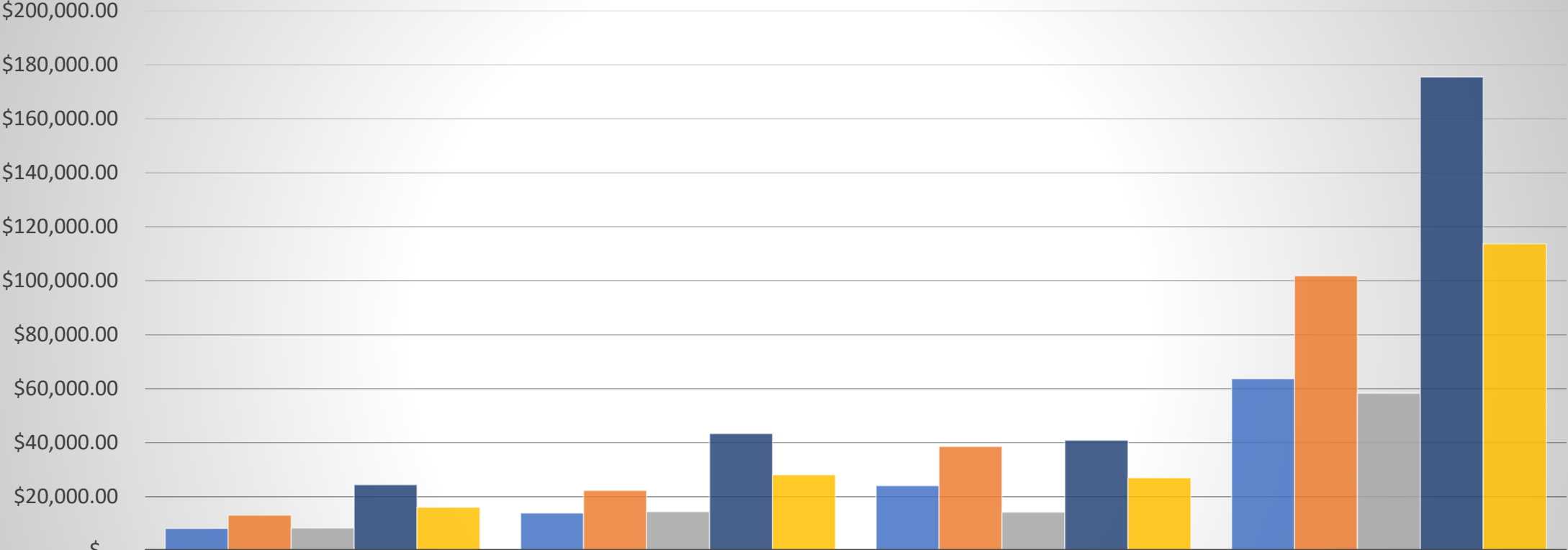
# Accounts with Meters Larger than 1" - Flow in Gallons Yearly (Wastewater)



|               | Example 6   1.5" meter   19,000 | Example 7   1.5" meter   104,000 | Example 8   2" meter   117,000 | Example 9   2" meter   475,000 |
|---------------|---------------------------------|----------------------------------|--------------------------------|--------------------------------|
| FY19 Bills    | \$465.05                        | \$1,140.89                       | \$1,375.65                     | \$4,465.28                     |
| Interim Bills | \$744.07                        | \$1,825.42                       | \$2,201.04                     | \$7,144.44                     |
| FY20-FY23     | \$524.44                        | \$1,254.43                       | \$1,456.39                     | \$4,530.91                     |
| FY24-FY27     | \$918.26                        | \$3,226.91                       | \$3,680.55                     | \$13,404.06                    |
| FY28-FY31     | \$779.21                        | \$2,255.69                       | \$2,593.80                     | \$8,812.41                     |



Accounts with Meters Larger than 1" - Flow in Gallons Yearly  
(Wastewater)

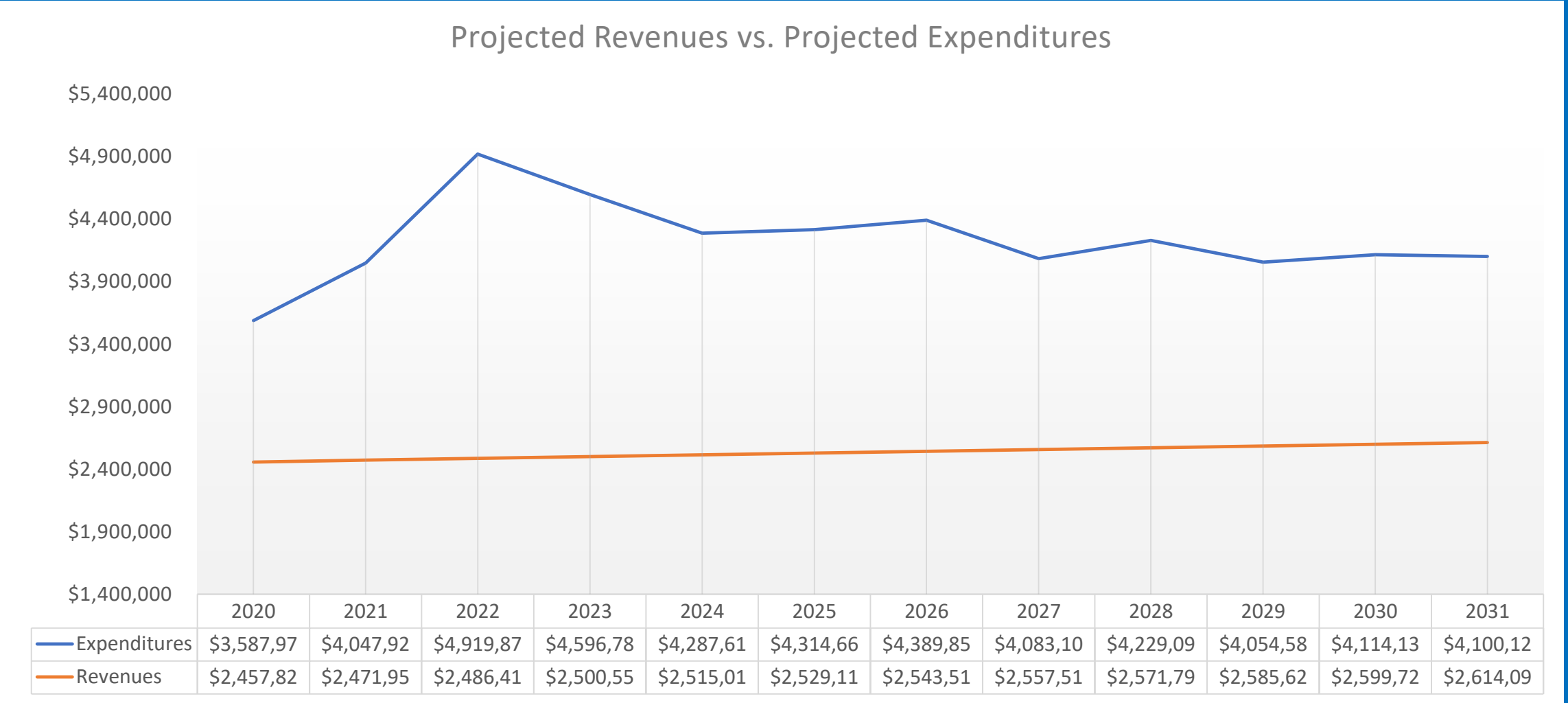


|               | Example 10   3" meter   870,000 | Example 11   3" meter   1,573,000 | Example 12   4+" meter   1,444,000 | Example 13   4+" meter   6,370,000 |
|---------------|---------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| FY19 Bills    | \$8,182.55                      | \$13,931.16                       | \$24,080.30                        | \$63,645.12                        |
| Interim Bills | \$13,092.07                     | \$22,289.86                       | \$38,528.47                        | \$101,832.19                       |
| FY20-FY23     | \$8,374.78                      | \$14,412.18                       | \$14,207.49                        | \$58,318.59                        |
| FY24-FY27     | \$24,424.30                     | \$43,347.76                       | \$40,880.84                        | \$175,490.66                       |
| FY28-FY31     | \$16,033.87                     | \$28,082.60                       | \$26,994.59                        | \$113,667.24                       |

WATER

# Revenue vs. Costs – Current Situation

## (Water)



# 4-Yr Level Rate Term

## (Water)

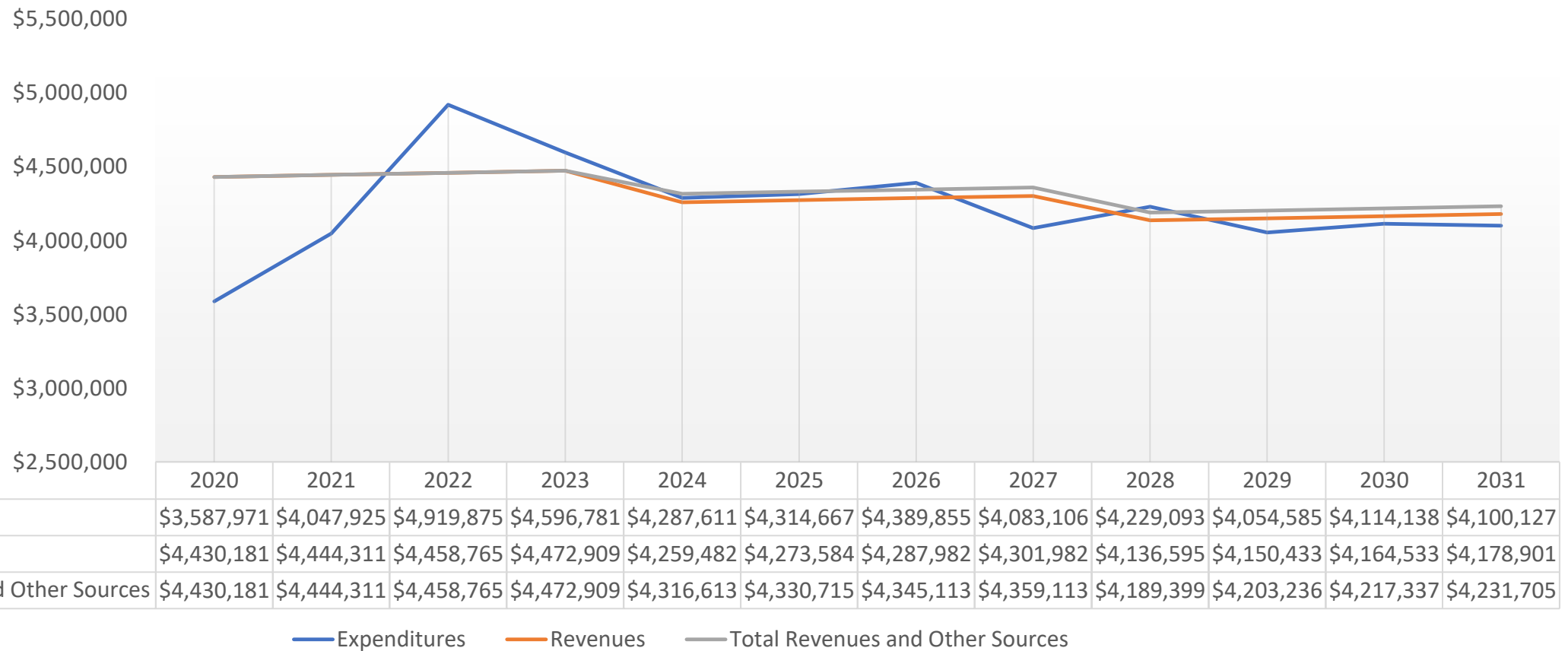
|                               |            |          | WATER RATES & BILL CODES<br>(2018/Interim/Proposed) |          |          |                         |            |            |          |         |        |         |             |
|-------------------------------|------------|----------|---|----------|----------|-------------------------|------------|------------|----------|---------|--------|---------|-------------|
|                               |            |          | Ready to Serve<br>(Per Bill)                        |          |          | Ready to Serve (Annual) |            |            | Non-Peak |         | Peak   |         | Year-Around |
|                               | Class Code | Size     | 2018  | Interim  | Proposed | 2018                    | Interim    | Proposed   | 2018     | Interim | 2018   | Interim | Proposed    |
| <b>FLOW:</b><br>(per 1000gal) | W1         | ALL      |   |          |          |                         |            |            | \$2.10   | \$2.73  | \$3.10 | \$4.03  | \$6.30      |
|                               | 51         | 1" & (-) | \$9.50  | \$12.35  | \$10.56  | \$38.00                 | \$49.40    | \$42.25    |          |         |        |         |             |
|                               | 52         | 1.5"     | \$13.35   | \$17.36  | \$10.24  | \$160.20                | \$208.26   | \$122.91   |          |         |        |         |             |
|                               | 53         | 2"       | \$17.15   | \$22.30  | \$12.80  | \$205.80                | \$267.54   | \$153.64   |          |         |        |         |             |
|                               | 54         | 3"       | \$27.55   | \$35.82  | \$25.61  | \$330.60                | \$429.78   | \$307.28   |          |         |        |         |             |
|                               | 55         | 4" & (+) | \$104.25  | \$135.53 | \$51.21  | \$1,251.00              | \$1,626.30 | \$614.56   |          |         |        |         |             |
|                               | 55         | 6"       |   |          | \$102.43 |                         |            | \$1,229.12 |          |         |        |         |             |



# 4-Yr Level Rate Term

## (Water)

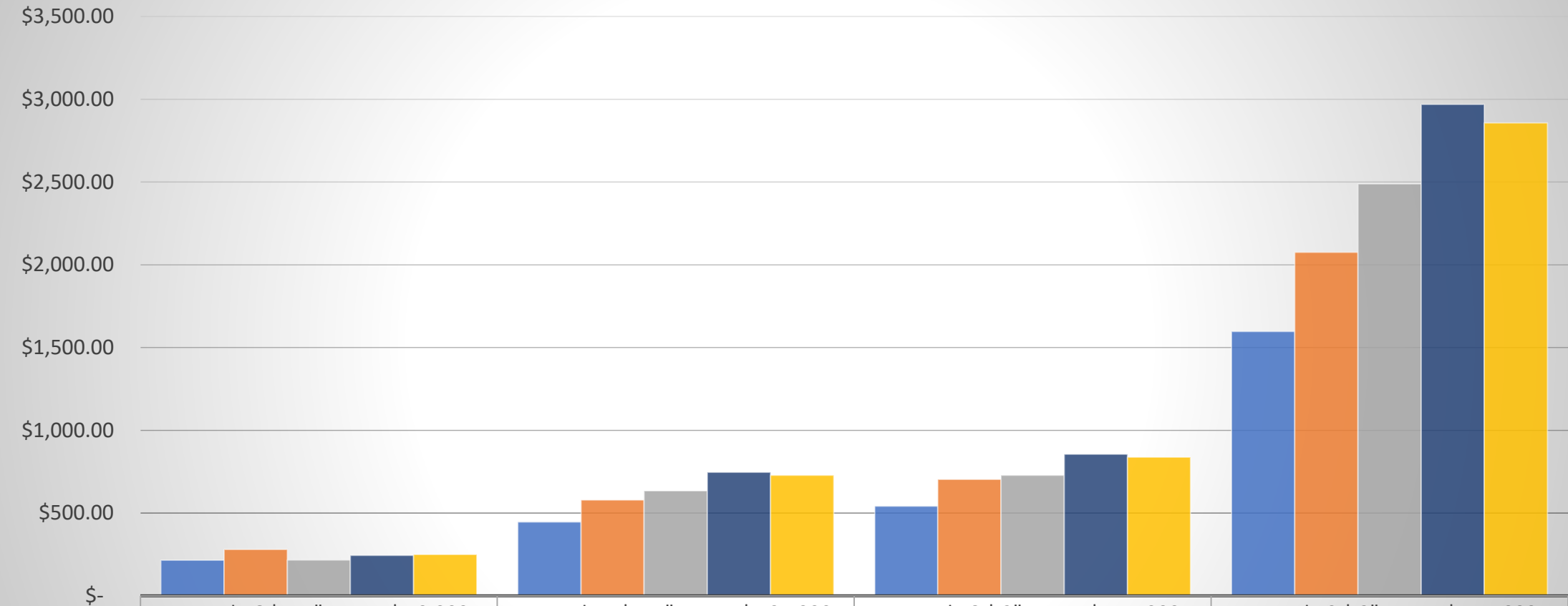
Projected Revenues vs. Projected Expenditures



# Accounts with 1" Meters - Usage in Gallons Yearly (Water)

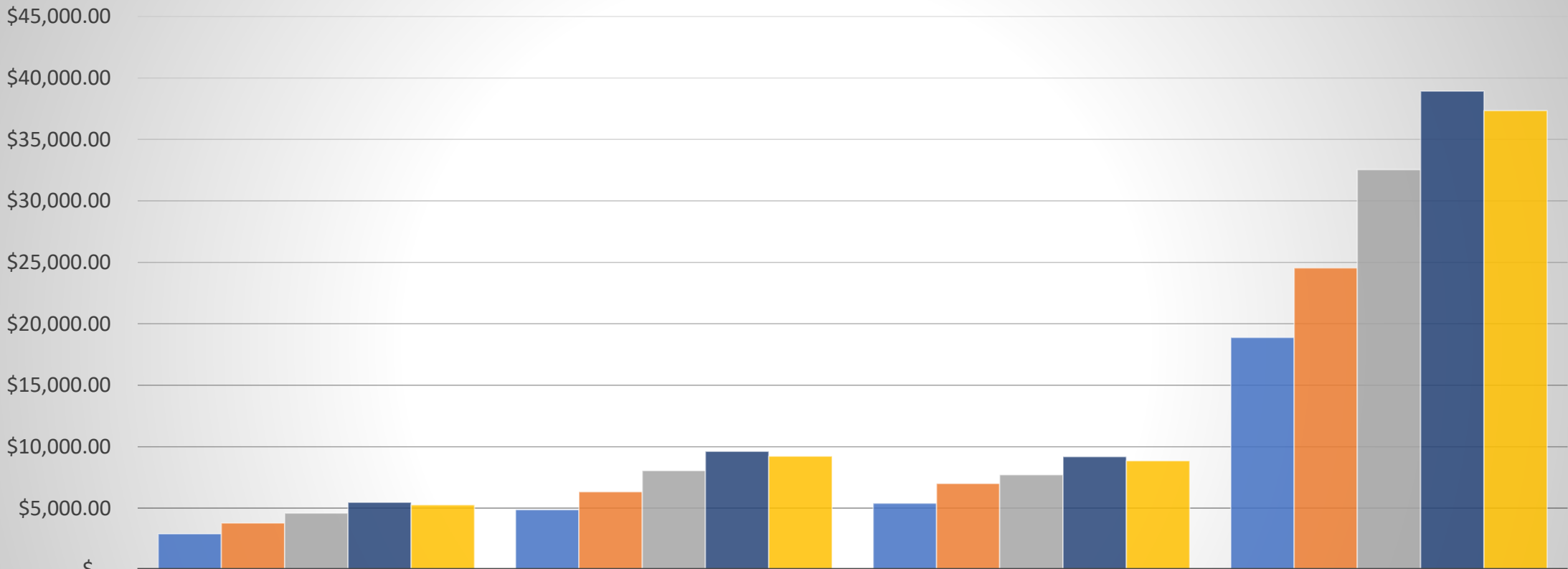


# Accounts with Meters Larger than 1" - Usage in Gallons Yearly (Water)



|               | Example 6   1.5" meter   19,000 | Example 7   1.5" meter   104,000 | Example 8   2" meter   117,000 | Example 9   2" meter   475,000 |
|---------------|---------------------------------|----------------------------------|--------------------------------|--------------------------------|
| FY19 Bills    | \$215.10                        | \$445.60                         | \$541.50                       | \$1,596.30                     |
| Interim Bills | \$279.63                        | \$579.28                         | \$703.95                       | \$2,075.19                     |
| FY20-FY23     | \$216.32                        | \$634.21                         | \$728.85                       | \$2,488.88                     |
| FY24-FY27     | \$244.30                        | \$746.16                         | \$855.94                       | \$2,969.64                     |
| FY28-FY31     | \$249.76                        | \$728.98                         | \$837.94                       | \$2,856.33                     |

# Accounts with Meters Larger than 1" - Usage in Gallons Yearly (Water)



|               | Example 10   3" meter   870,000 | Example 11   3" meter   1,573,000 | Example 12   4+ meter   1,444,000 | Example 13   4+ meter   6,370,000 |
|---------------|---------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| FY19 Bills    | \$2,908.60                      | \$4,869.90                        | \$5,388.40                        | \$18,884.00                       |
| Interim Bills | \$3,781.18                      | \$6,330.87                        | \$7,004.92                        | \$24,549.20                       |
| FY20-FY23     | \$4,584.45                      | \$8,040.60                        | \$7,713.68                        | \$32,545.88                       |
| FY24-FY27     | \$5,466.95                      | \$9,617.58                        | \$9,186.26                        | \$38,930.87                       |
| FY28-FY31     | \$5,261.62                      | \$9,225.12                        | \$8,854.41                        | \$37,340.25                       |



# Recommended Rate Structure

|                               |           |           | Wastewater                   |                            |                             | Water                        |                            |                              |
|-------------------------------|-----------|-----------|------------------------------|----------------------------|-----------------------------|------------------------------|----------------------------|------------------------------|
|                               |           |           | Ready to Serve<br>(Per Bill) | Ready to Serve<br>(Annual) | Usage<br>Rate<br>(1000 gal) | Ready to Serve<br>(Per Bill) | Ready to Serve<br>(Annual) | Usage<br>Rate<br>(1000 gals) |
| <b>FLOW:</b><br>(per 1000gal) | W1        | ALL       |                              |                            | <b>\$14.70</b>              |                              |                            | <b>\$6.30</b>                |
|                               | 51        | 1" & (-)  | <b>\$31.05</b>               | <b>\$124.19</b>            |                             | <b>\$10.56</b>               | <b>\$42.25</b>             |                              |
|                               | 52        | 1.5"      | <b>\$30.11</b>               | <b>\$361.27</b>            |                             | <b>\$10.24</b>               | <b>\$122.91</b>            |                              |
|                               | 53        | 2"        | <b>\$37.63</b>               | <b>\$451.59</b>            |                             | <b>\$12.80</b>               | <b>\$153.64</b>            |                              |
|                               | 54        | 3"        | <b>\$75.26</b>               | <b>\$903.17</b>            |                             | <b>\$25.61</b>               | <b>\$307.28</b>            |                              |
|                               | 55        | 4"        | <b>\$150.53</b>              | <b>\$1,806.34</b>          |                             | <b>\$51.21</b>               | <b>\$614.56</b>            |                              |
|                               | <b>55</b> | <b>6"</b> | <b>\$301.06</b>              | <b>\$3,612.69</b>          |                             | <b>\$102.43</b>              | <b>\$1,229.12</b>          |                              |

# Comparisons

(1" Meters)

## Wastewater

| City       | 20,000 gals | 40,000 gals |
|------------|-------------|-------------|
| Lewes      | \$876.00    | \$988.20    |
| Cape May   | \$507.50    | \$837.50    |
| Rehoboth   | \$418.19    | \$712.19    |
| Georgetown | \$238.20    | \$386.00    |

## Water

| City          | 20,000 gals | 40,000 gals |
|---------------|-------------|-------------|
| Tidewater     | \$588.47    | \$752.62    |
| Bethany Beach | \$280.00    | \$390.00    |
| Lewes         | \$278.20    | \$313.40    |
| Cape May      | \$268.75    | \$433.75    |
| Georgetown    | \$217.60    | \$295.20    |
| Rehoboth      | \$168.24    | \$294.24    |
| Ocean City    | \$154.40    | \$238.40    |

Questions/Discussion