Strategic Plan to Address Water Meter System Challenges

Objective

Resolving Challenges in Electronic Water Meter System for Enhanced Operational Efficiency and Utility Revenue.

Current State

- Total water meters: 11,869
- Advanced meters: 6,690
- Manual meters: 5,179

- Currently City have 1,170 ME-8 type Electronic meters that can be functioned as a Manual Meter without the need for replacement and 5,520 SSR Digital Meters.

Challenges

- Meter failures
- Issues with faulty transmitters
- Connectivity glitches
- Software malfunctions
- Occurrences of zero readings, inaccuracies in data
- Delays in receiving responses and product deliveries from Contractor
- Contractor shortcomings in meeting their contractual obligations
- Unresolved warranty issues
- Expired software licenses and service maintenance agreements. ($63,194.62)

Impact

- Substantial revenue decline
- Operational strain
- Resource allocation challenges
- Adverse effect on the City's customer service reputation
- Disrupt the efficiency of water treatment production processes

Revenue Impact

Calculation of Lost Revenue 2023 Water/Waste Water

2023	Water Produced	Water Billed	Difference	Difference %
January	100.172	72.31	27.86	28%
February	89.6	75.68	13.92	16%
March	107.036	86.36	20.67	19%
April	89.638	83.71	5.93	7%
May	101.393	74.19	27.21	27%
June	83.608	70.43	13.18	16%
July	87.031	68.69	18.34	21%
August	87.186	68.68	18.51	21%
September	88.039	74.47	13.57	15%
October	96.99	68.40	28.59	29%
November	94.358	72.19	22.17	23%
December	93.695	78.05	15.65	17%
Total	**1118.746**	**893.16**	**225.58**	**20.16%**
Unbilled City Used Water	0.397455			
Net Gallons Used	**1118.35**	**893.16**	**225.18**	**20.14%**
Base Billed (0-5,000 gal)				
Water	3.63			
Sewer	3.62		225.18	
	7.25			
Annual loss based off the above numbers			**$ 1,632,587.95**	

* Plus, Annual Software license fee $63,194.62 and Utilities Staff reallocation Labor cost.

Phased Replacement

- Systematically transition to a more reliable and efficient metering infrastructure.

- Address the root causes of the current issues.

Resource Optimization

- Strategically evaluate contractual meter reading services.
- Explore the possibility of transitioning a part-time position to full-time in subsequent phases.
- Aim for enhanced operational efficiency.
- Consider the delays in responses due to the current system's inability to provide accurate and consistent data.

Cost Analysis

The manual meter estimated cost is $65.05 each and check valves cost is $44.79 each.

(Total: $109.84)

Cost Analysis Phase I

- Replacing 5,520 SSR digital meters with manual meter material cost is estimated at $606,316.80.

- The meter replacement labor cost is estimated at $15 per meter, totaling $82,800.00.

- Estimated replacement time is 4 to 6 months.

Cost Analysis Phase II

- Estimated material cost for upgrading 5,179 outdated manual meters is $568,861.36.

- The meter replacement labor cost is estimated at $15 per meter, totaling $77,685.00.

- Estimated replacement time is 4 to 6 months.

Cost Analysis Phase III

Currently the 1,170 ME-8 type meters that can be functioned as a manual meter without the need for replacement.

- Evaluate the performance of ME-8 meters to determine if replacement needed.

Cost Analysis

- Phase I : Replacing 5,520 SSR digital meters
  - Meter/Valve cost: $606,316.80
  - Estimated Labor cost: $82,800.00

- Phase II: Upgrading 5,179 outdated manual meters
  - Meter/Valve cost: $568,861.36
  - Estimated Labor cost: $77,685.00

- Phase III: Evaluate the performance of ME-8 meters

- Total Program Cost: $1,335,663.16

Conclusion

- Implement enhanced strategic plan for water meters
- Resolve challenges posed by advanced meters
- Elevate overall efficiency and reliability
- Curb revenue losses and streamline operations
- Ensure utmost accuracy in utility billing
- Improve Costumer service
- Enhance resource allocation efficiency and elevate the City's customer service reputation