CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To:	The Honorable Mayor and Council
From:	Erin Young, Water Resources Manager
Co-Submitter:	Shannon Jones
Date:	02/28/2024
Meeting Date:	03/04/2024

TITLE:
Wastewater Rate Design Alternatives Workshop

DESIRED OUTCOME:
The desired outcome from this Work Session is guidance on which wastewater rate option is preferred by City Council and Water Commission.

Executive Summary:
At the February 13, 2024 City Council meeting, the third phase of the Rate Study was presented by Stantec. This meeting was to request the Council's objectives for updating water, wastewater and reclaimed water rates.

Stantec gave the same presentation to the Water Commission at the February 15 Water Commission meeting.

The objectives that ranked highest among the Council and Commission were for revenue stability, water conservation, equity between customer classes and within a customer class. Affordability and the administrative burden with each option will be evaluated during this Work Session.

At this Work Session, Stantec will present three options for updating wastewater rates and wastewater rate structure. The following options will be presented:

- Adjusting the current rate structure such that each customer class revenues target the cost of service
- Establishing a monthly base charge for wastewater and charging a volumetric rate to the current set of customer classes
- Establishing a monthly base charge for wastewater and charging a volumetric rate to a condensed set of customer classes

Direction from this Work Session and the Work Session on March 25 will be presented as a final set of changes to rates and rate structures to City Council on April 16, 2024

Information:
An objective of this rate analysis is to develop cost-of-service-based water, wastewater, and reclaimed water rates that charge customers in proportion to the cost of serving each customer. The methodologies used by Stantec are ones endorsed by the leading utility rate-making organizations in the United States, the American Water Works Association (AWWA) and the Water Environment Federation (WEF).

Common industry practice is a two-part rate structure comprising both fixed and volume charges. Generally accepted practice recovers a portion of the costs of the system in a fixed monthly charge (base charge), recognizing that utilities have substantial investments in system costs and other year-round fixed costs to maintain a state of readiness to meet peak demands of customers when these demands occur. In addition, fixed charges also include recovery of customer-related costs. Volume charges recover the remaining revenue requirements, often based on average day-to-day use of the systems. Peak demands of water systems may also be recovered through other forms of volume charges, such as tiered or seasonal rates.

The City currently has a monthly base charge for water service, which is scaled based on meter size. In addition, a usage charge is applied to customers based on metered water use. For wastewater service, customers are charged a uniform volume rate based on customer class. Reclaimed water rates are established at 35% of the water rates by policy.

While the City's current rate structures for both water and wastewater services comply with common industry practice, Stantec's analysis indicates the cost of service is out of balance for several customer classes. Stantec incorporated the pricing objectives from the previous meeting to evaluate alternative rate structures that achieve these objectives as well as align rates with costs of service. Rate options were developed to achieve the priorities we heard from our last work session with Council and Water Commission that include revenue stability, water conservation, administrative burden (complexity), and proportionality (equity)

between customer classes and within a customer class.

The desired outcome from this Work Session is guidance on which wastewater rate option is preferred by City Council and Water Commission.

Water rate alternatives will be presented for discussion at the Joint Water Commission-City Council Work Session scheduled for March 25, 2024.

The user fee portion that addresses the cost-of-service to complete miscellaneous services is currently being worked on and the results will be presented at a future meeting.

City Council should expect the Rate Study to remain on monthly agendas through the proposed adoption of updated rates and fees at City Council's June 18th and July 2nd meetings.

RESULTS OF WASTEWATER COST-OF-SERVICE ANALYSIS

The financial planning analysis evaluated the sufficiency of the City's revenues to meet all current and projected financial requirements over a 10-year projection period, and determined the level of any rate revenue adjustments necessary in each year of the projection period to provide sufficient revenues to fund the water, wastewater, and reclaimed water system cost requirements. This summary focuses on the wastewater fund revenue requirements, cost-of-service results, and options for recovering the costs of service by wastewater customer classes.

Wastewater fund annual revenue requirements are expected to increase from current FY 2024 to FY 2025, the first year of the proposed rate period, by 22%. The following table summarizes the components of the rate revenue requirements in these two periods.

Wastewater Fund	FY 2024 (millions)	FY 2025 (millions)
Operations & Maintenance	$8.3	$8.7
Debt Service	$2.6	$3.1
Capital	$8.3	$5.5
Total Expenditures	**$19.2**	**$17.3**
Use of Reserves	*($7.7)*	*($3.7)*
Non-Rate Revenue	*($0.9)*	*($0.6)*
Rate Revenue	**$10.6**	**$13.0**

In conjunction with City Staff, Stantec allocated the City's wastewater costs in a cost-of-service (COS) analysis to determine the under or over-recovery of revenues generated from each customer class. The COS analysis evaluated projected FY 2025 annual costs the City will incur to provide its customers wastewater service and fund the full capital improvement program (CIP). The analysis determined the portion of system costs that are allocable to wastewater treatment, collection system, and administrative functions. Customer classes require wastewater service depending on each class's usage characteristics. Therefore, Stantec analyzed customer class billable wastewater flows and strengths of flows to determine the demand each class places on the City's wastewater system.

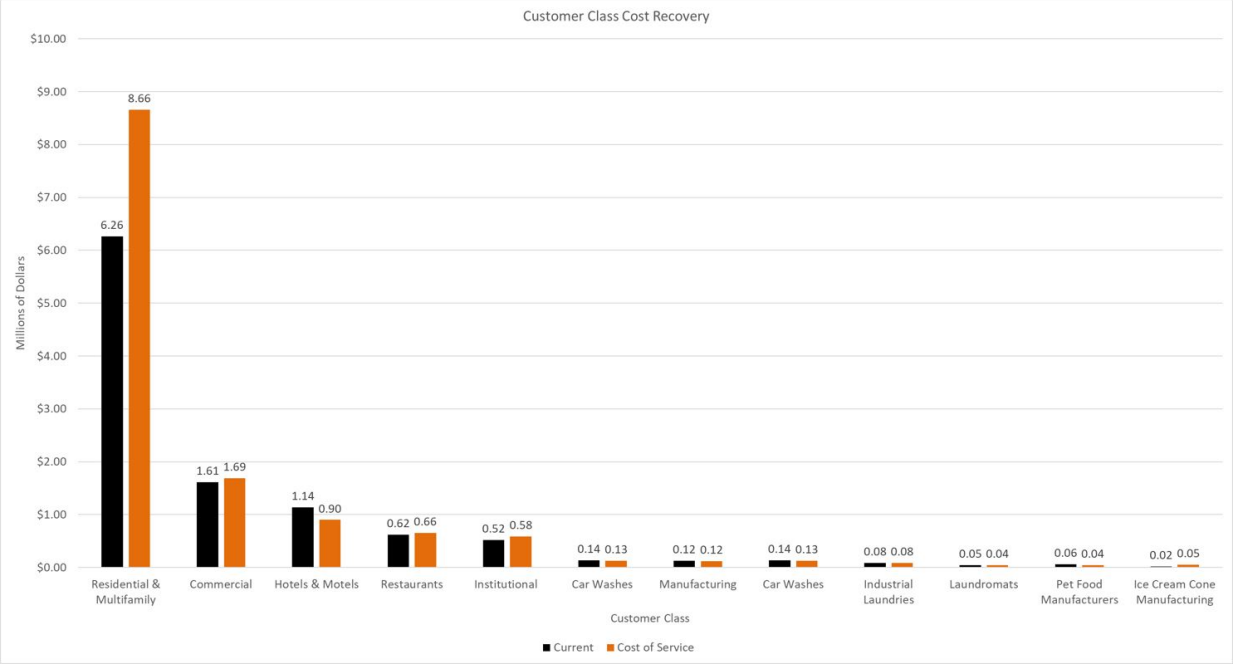
The following table presents the analysis of billable flows for FY 2023, with projected flows for FY 2024 used in the COS analysis. The adjustment in FY 2024 flows was calculated to recover budgeted revenue in FY 2024 based on FY 2023 billable units.

Wastewater Flows (1,000 gallons)			
Customer Class	**2023**	**2024**	***% Increase***
Residential	1,115,798	1,169,861	*4.85%*
Car Washes	24,570	25,761	
Laundromats	7,893	8,275	
Commercial	270,276	283,371	
Institutional	105,650	110,769	
Manufacturing	19,425	20,367	
Hotels and Motels	143,353	150,299	
Restaurants	64,844	67,986	
Industrial Laundries	9,342	9,795	
Pet Food Manufacturing	4,692	4,920	
Ice Cream Cone Manufacturing	1,312	1,375	
Total	**1,767,155**	**1,861,619**	***4.85%***

Stantec also reviewed wastewater strengths of flows by customer class. The current wastewater rates by class include assumptions of strength of flows. Review of City code assumptions, as well as considerations for process improvements for specific customer classes, results in the following concentrations in milligrams per liter (mg/L) for biochemical oxygen demand (BOD) and total suspended solids (TSS) assumed for the COS analysis.

Wastewater Strengths Assumed for COS		
Customer Class	**BOD (mg/L)**	**TSS (mg/L)**
Residential	300	350
Car Washes	20	150
Laundromats	150	110
Commercial	200	175
Institutional	130	100
Manufacturing	200	175
Hotels and Motels	310	120
Restaurants	1,000	600
Industrial Laundries	670	680
Pet Food Manufacturing	701	527
Ice Cream Cone Manufacturing	9,700	100

Stantec allocated the FY2025 revenue requirements to customer classes using these flow and strength characteristics. The resulting cost of service by class is presented in the following chart. A comparison of current (FY 2024) projected revenues by class with the cost of service for FY 2025 indicates some classes require an increase in cost recovery while others require a decrease in cost recovery for the first year in the rate study period.



CONNECTING PRIORITIES WITH RATE OPTIONS

Given the feedback on priorities from both City Council and Water Commission, the wastewater rate design analysis presents three rate options for consideration that meet these priorities. Priorities include:

- Revenue stability
- Conservation/demand management
- Administrative burden
- Proportionality (or equity) between classes and within a class
- Affordability

Proportionality and Administrative Burden
While proportionality between classes and within a class is not the top priority, it is achieved through each of the three rate options presented. At the most basic level, the same rate structure as currently in place can be adjusted based on the cost of service by class results to achieve multiple priorities.

Option 1 - Cost of Service Rates by Class
The first rate option adjusts the uniform volume rates by customer class to recover the class costs of service for FY 2025. This adjustment results in some classes' rates increasing, with other classes' decreasing to mirror the results of the cost of service analysis. The next table presents the results.

Customer Class	Current Rate	FY 2025 COS Results
Residential	$5.35	$7.33
Car Washes	$5.38	$5.16
Laundromats	$5.53	$5.55
Commercial	$5.68	$6.11
Institutional	$4.91	$5.41
Manufacturing	$6.09	$5.92
Hotels & Motels	$7.58	$6.14
Restaurants	$9.09	$9.54
Industrial Laundries	$8.36	$8.81
Pet Food Manufacturers	$13.34	$8.56
Ice Cream Cone Manufacturing	$16.48	$39.95

Revenue Stability

Stable annual revenues from Water Services' perspective, as well as stable monthly bills from a customer perspective can be achieved through implementing a fixed charge for wastewater customers. A fixed charge, similar to the fixed charge for water and reclaimed water service, is established to recover a portion of annual revenue requirements from a monthly charge by meter size. Through discussions with City staff, Water Services best practice for fixed charge revenue recovery is set to a minimum of 25% based on City policy for the water fund. Stantec calculated a fixed charge for the wastewater fund following the same practice. This approach also aligns with bond rating agencies metrics and the nature of utility costs to operate a wastewater system. A large portion of the wastewater system revenue requirements, such as salaries and wages, debt service payments, and maintenance costs, do not vary as wastewater flows increase or decrease. A fixed charge protects the water fund revenues from changes in usage.

Option 2 - Fixed Charge + Individualized Rates by Class

The second rate option is calculated to recover 25% of FY 2025 revenue requirements from a monthly fixed charge by meter size. The charge is determined by evaluating the total number of connections to the wastewater system, identifying the water meter size associated with those connections, and determining an equivalent residential unit (ERU) total using factors from the AWWA manuals on flow rates for different meter sizes. These ERUs represent the potential usage of the wastewater system.

The remaining 75% of revenue requirements is recovered through the same sewer rate structure as currently in place – uniform volume rates per 1,000 gallons of billed sewer flow by class. These rates have been adjusted for the costs of service by class.

The tables present the results for FY 2025. All rates represent the inside-City rates. Outside-City rates include a 10% surcharge.

Meter Size	ERU Factor	Fixed Charge (25% Cost Recovery)
¾"	1.00	$10.39
1"	1.67	$17.32
1 ½"	3.33	$34.63
2"	5.33	$55.41
3"	11.67	$121.22
4"	16.67	$173.17
6"	33.33	$346.33
8"	53.33	$554.13

Customer Class	Current Rate	Individualized Volume Charge (per 1,000 gallons) (75% Cost Recovery)
Residential	$5.35	$5.50
Car Washes	$5.38	$3.87
Laundromats	$5.53	$4.16
Commercial	$5.68	$4.58
Institutional	$4.91	$4.06
Manufacturing	$6.09	$4.44
Hotels & Motels	$7.58	$4.61
Restaurants	$9.09	$7.16
Industrial Laundries	$8.36	$6.61
Pet Food Manufacturers	$13.34	$6.42
Ice Cream Cone Manufacturing	$16.48	$29.96

Revenue Stability/Administrative Burden

Adding on to the priorities addressed in the first two options, the priority of administrative burden and complexity of the rate structure can be addressed by consolidation of the non-residential customer classes. The City has maintained individual customer classes for non-residential type customers with rates that reflect a combination of flows and strengths for many years. As new customers are added, it is important to assign the customer to the correct class. To simplify the current structure, Stantec proposes a consolidation of non-residential customers into classes with like flow and strength characteristics. While variations in flows and strengths exist, the three non-residential classes present a range of loadings (flows and strengths) for each class that can be used to evaluate where a new customer belongs in the consolidated structure.

Option 3 – Fixed Charge + Consolidated Non-Residential Rates by Class

The third rate option builds on Options 1 & 2. The fixed charge is the same as in Option 2 and is calculated to recover 25% of the annual revenue requirements.

The remaining revenue requirements are recovered through a uniform volume rate for residential customers and for three non-residential classes:

- Non-residential A
- Non-residential B
- Non-residential C

Residential rates are the same as in Option 2. The non-residential classes' rates are calculated to recover the total costs of service for customers in the consolidated classes. Therefore, the volume rates per 1,000 gallons of billed flows are based on the cost-of-service results.

The tables below present the results for FY 2025. All rates represent the inside-City rates. Outside-City rates include a 10% surcharge.

Meter Size	ERU Factor	Fixed Charge (25% Cost Recovery)
¾"	1.00	$10.39
1"	1.67	$17.32
1 ½"	3.33	$34.63
2"	5.33	$55.41
3"	11.67	$121.22
4"	16.67	$173.17
6"	33.33	$346.33
8"	53.33	$554.13

Consolidated Class	Customer Class	Current Rate	Consolidated Volume Charge (75% Cost Recovery)
Residential	Residential	$5.35	$5.50
Non-Residential A	Car Washes	$5.38	$4.45
	Laundromats	$5.53	
	Commercial	$5.68	
	Institutional	$4.91	
	Manufacturing	$6.09	
	Hotels & Motels	$7.58	
Non-Residential B	Restaurants	$9.09	$7.05
	Industrial Laundries	$8.36	
	Pet Food Manufacturers	$13.34	
Non-Residential C	Ice Cream Cone Manufacturing	$16.48	$29.96

ESTIMATED CUSTOMER BILL IMPACTS

For each option, customers will see an effect on their current monthly bills due to the revenue requirements for FY 2025, the adjustment for cost-of-service results, and the rate option. The table below presents average monthly bill impacts for each customer class for each of the rate options. Average bill impacts in this table means all monthly bills for 12 months for each customer class were averaged to calculate a change in those monthly bills as a result of the rate option. These may not represent typical bills for the class due to variations in usage and meter size for each class. The residential class, however, closely approximates our previous example municipal services bill for a typical residential customer.

Customer Class	Option 1 – COS Results	Option 2 – Fixed + Individualized	Option 3 – Fixed + Consolidated
Residential	$10.00	$12.23	$12.23
Car Washes	($35.00)	($212.26)	($119.54)
Laundromats	$3.00	($161.03)	($114.92)
Commercial	$8.00	$5.07	$2.73
Institutional	$4,402.71	($4,990.00)	($1,793.00)
Manufacturing	($10.00)	($67.72)	($67.03)
Hotels & Motels	($183.00)	($330.31)	($350.09)
Restaurants	$18.00	($55.67)	($60.00)
Industrial Laundries	$350.00	($1,241.91)	($896.64)
Pet Food Manufacturers	($1,780.00)	($2,651.00)	($2,230.00)
Ice Cream Cone Manufacturing	$2,565.00	$1,595.00	$1,595.00

Attachments: Draft Presentation