Timpanogos Special Service District

Sewer Rates Study

ZIONS PUBLIC FINANCE, INC.

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Contents

Sewer Rates

Background and Approach

The Timpanogos Special Service District (TSSD) is experiencing exceptionally strong growth, putting pressure on the District's water system to serve more customers. Further, inflationary costs are resulting in increased operating expenses and the District needs to construct significant capital improvements. Rates must be designed to keep up with these changes and must be structured to fairly and equitably serve customer needs. As such, TSSD rates are tied to actual flow, BOD, and TSS load demands placed on the system.

The approach used in this analysis is commonly referred to as a "revenue sufficiency model." All expenses (operating and capital) are first calculated, and then rates are structured to cover annual expenses, maintain sufficient debt service ratios, and to keep at least 180 days on hand in the sewer utility fund.

Growth Projections

Growth in sewer equivalent residential units (ERUs) is based on historical growth in the District and has been projected at a rate of 5.7 percent between 2023 and 2024 and 3.8 percent between 2024 and 2029.

TABLE 1: PROJECTED SEWER ERU GROWTH

Sewer Growth	ERUs
2022	86,883
2023	91,835
2029	116,969

TABLE 2: PROJECTED SEWER ERU FLOW GROWTH

	2022	2023	2029
Influent Flow (MG/yr)	6,581.89	6,957.05	8,861.09
BOD (1000 lb)	13,092.40	13,838.67	17,626.09
SS (1000 lb)	14,267.95	15,081.22	19,208.71

Operating Expenses

Growth in operating expenses is conservatively projected at an average annual rate of three percent per year with a few exceptions. This includes the new costs attributable to new development, as well as inflationary expenses. Operating expenses are anticipated to grow from $12.7 million in 2022 to nearly $14.7 million in 2029.

Outstanding Debt

Outstanding debt that must be covered by the District includes the Series 2017 bond that will be retired by 2029 and the 2023 bond that will retire by 2043.

Capital Projects

Significant capital projects are planned for the District.

TABLE 3: CAPITAL PROJECTS

Year	Capital Cost
2024	$153,757,281
2025	$293,961,161
2026	$241,294,069
2027	$110,910,736
2028	$63,540,725
2029	$69,929,476

Repair and Replacement

Based on information provided by the District and its engineers, an amount of $1 million annually has been budgeted for repair and replacement of sewer facilities.

Rate Structuring

Current rates are structured as follows:

TABLE 4: CURRENT RATES

RATE SCHEDULE	Amount
Influent Flow ($/1000 gallons)	$2.077000
BOD ($/lbs)	$0.223000
TSS ($/lbs)	$0.179000
Note: Actual 2022 numbers use 6312.98 gallons per month per ERU Rates charged at 1,000 gallon per month increments	

Proposed Rates

Two different rate structures are proposed to allow the District to cover its costs, maintain debt service coverage ratios of at least 1.25 times and keep at least 180 days cash on hand. The two proposed rate structures include rate increases as follows:

Option 1

- 2024 – 40% increase
- 2025-2027 – 15% each year for 3 years
- 2028+ - 3% per year thereafter

Option 2

- 2026 – 75% increase
- 2027 – 20% increase
- 2028 – 3% per year thereafter

With both rate structures, the District will need to issue significant new bonds as follows:

- 2023 - $32.7M
- 2024 - $330.2M
- 2025 - $389.9M
- 2025 - $52.0M

Debt Coverage Ratios

Debt service coverage ratios stay above 1.25 times under both scenarios.

Days Cash on Hand

Days cash on hand remain above 180 days under both scenarios.

Option 1

The rate increases of 40 percent in 2024, 15 percent per year between 2025 and 2027, as well as three percent per year thereafter, allow the District to maintain adequate debt service coverage ratios as well as sufficient days cash on hand.

TABLE 5: KEY METRICS WITH OPTION 1

	2024	2025	2026	2027	2028	2029
Net Revenues before Debt Service	$46,635,134	$63,196,595	$74,551,047	$65,930,959	$67,291,088	$124,653,897
Debt Service	($5,775,924)	($26,451,903)	($54,464,404)	($54,463,704)	($54,467,804)	($54,466,504)
Capital Expenses	($153,757,281)	($292,961,161)	($241,294,069)	($110,910,736)	($63,540,725)	($69,929,476)
Ending Cash Balance	$255,046,026	$439,710,667	$217,503,241	$117,059,760	$65,342,319	$64,600,235
Debt Service Coverage Ratio	8.07	2.39	1.37	1.21	1.24	2.29
Days Cash on Hand	6,317	10,574	5,915	3,091	1,675	1,608

Rates under this option appear as follows:

TABLE 6: RATE INCREASES WITH OPTION 1

	2022	2023	2024	2025	2026	2027	2028	2029
RATE SCHEDULE	*0.0%*	*0.0%*	*40.0%*	*15.0%*	*15.0%*	*15.0%*	*3.0%*	*3.0%*
Influent Flow ($/1000 gallons)	2.077	2.077	2.9078	3.34397	3.8455655	4.422400325	4.555072335	4.691725
BOD ($/lbs)	0.223	0.223	0.3122	0.35903	0.4128845	0.474817175	0.48906169	0.503734
TSS ($/lbs)	0.179	0.179	0.2506	0.28819	0.3314185	0.381131275	0.392565213	0.404342

	2022	2023	2024	2025	2026	2027	2028	2029
Total	2.479	2.479	3.4706	3.99119	4.5898685	5.278348775	5.436699238	5.599800
Average User Rate ($/month)	$18.43	$18.43	$25.80	$29.67	$34.12	$39.24	$40.42	$41.63
Rate ($/1000 gallons)	$3.07	$3.07	$4.30	$4.95	$5.69	$6.54	$6.74	$6.94

Option 2

The rate increase of 75 percent in 2026 and three percent per year thereafter allow the District to maintain adequate debt service coverage ratios as well as sufficient days cash on hand.

TABLE 7: KEY METRICS WITH OPTION 2

	2024	2025	2026	2027	2028	2029
Net Revenues before Debt Service	$38,079,623	$49,396,983	$71,541,304	$62,377,842	$63,438,327	$120,479,155
Debt Service	($5,775,924)	($26,451,903)	($54,464,404)	($54,463,704)	($54,467,804)	($54,466,504)
Capital Expenses	($153,757,281)	($292,961,161)	($241,294,069)	($110,910,736)	($63,540,725)	($69,929,476)
Ending Cash Balance	$246,490,514	$417,355,543	$192,138,373	$88,141,776	$32,571,575	$27,654,749
Debt Service Coverage Ratio	6.59	1.87	1.31	1.15	1.16	2.21
Days Cash on Hand	6,105	10,036	5,226	2,327	835	688

Rates under this option appear as follows:

TABLE 8: RATE INCREASES WITH OPTION 2

	2022	2023	2024	2025	2026	2027	2028	2029
RATE SCHEDULE	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*75.0%*	*20.0%*	*3.0%*	*3.0%*
Influent Flow ($/1000 gallons)	2.077	2.077	2.077	2.077	3.63475	4.3617	4.492551	4.62732753
BOD ($/lbs)	0.223	0.223	0.223	0.223	0.39025	0.4683	0.482349	0.49681947
TSS ($/lbs)	0.179	0.179	0.179	0.179	0.31325	0.3759	0.387177	0.39879231
Total	2.479	2.479	2.479	2.479	4.33825	5.2059	5.362077	5.52293931
Average User Rate ($/month)	$18.43	$18.43	$18.43	$18.43	$32.25	$38.70	$39.86	$41.06
Rate ($/1000 gallons)	$3.07	$3.07	$3.07	$3.07	$5.38	$6.45	$6.64	$6.84