IRONHOUSE SANITARY DISTRICT

Wastewater Rate Study

REPORT / MARCH 17, 2026

IRONHOUSE SANITARY DISTRICT

RAFTELIS

ISD Cost of Service Change Log

The attached change log summarizes the differences between the Raftelis Cost of Service final draft report dated March 9, 2026, and the final version dated March 17, 2026. It is provided for transparency and to clearly identify all revisions made between the draft and final documents.

REV. NO.	SECTION / DWG NO.	DESCRIPTION
1	1.1	Clarified wording related to design rates.
2	1.2	Corrected verb tense in rate study process description.
3	1.2	Removed reference to steps outlined below.
4	1.2	Updated wording from “outlined” to “listed” for clarity.
5	1.3	Clarified fiscal year description for planning horizon (FYE 2036).
6	1.3	Simplified fiscal year range reference.
7	Figure 1-3	Minor punctuation correction (comma removed).
8	Figure 1-3	Clarified minimum reserve terminology.
9	Figure 1-3	Clarified reserve target wording.
10	Figure 1-3	Updated figure title to “Minimum Reserve Level.”
11	Figure 1-3	Updated figure title to “Reserve Target.”
12	3.1	General correction to internal wording (“and/or”).
13	3.1	Minor punctuation correction.
14	3.1	Clarified cost comparison wording.
15	3.2.6	Updated reserve terminology from targets to levels.
16	3.2.7	Clarified minimum reserve language.
17	3.2.7	Corrected internal reference to dashed line in figure.
18	Table 3-9	Updated operating reserve terminology.
19	Table 3-9 Line 19	Updated term to “Reserve Level.”
20	Table 3-9 Line 20	Updated term to “Operating Reserve Target.”
21	Table 3-10	Clarified minimum capital reserve level wording.

ISD Cost of Service Change Log

22	Table 3-10	Updated title to “Minimum Capital Reserve Level.”
23	4.2	Removed reference to collection for accuracy.
24	4.2	Corrected internal reference from District to ISD.
25	4.2	Clarified wastewater strength wording.
26	4.2	Minor punctuation correction.
27	4.2	Clarified RCLD description.
28	4.3.1	Clarified ADU comparison wording.
29	4.4	Standardized cost-of-service terminology.
30	4.4	Clarified customer flow description.
31	4.4	Clarified CASA report reference.
32	4.4 Footnote	Removed redundant footnote.
33	4.4	Clarified wastewater generation description.
34	4.4	Corrected units from mg/1 to mg/L.
35	4.4	Clarified reference to historical values.
36	4.5	Minor wording cleanup.
37	4.6	Standardized Cost-of-Service terminology.
38	Table 4-10	Clarified revenue label.
39	5.1	Simplified non-residential rate structure explanation.
40	5.2	Updated internal footnote numbering.
41	5.2	Corrected unit formatting from “sq ft” to “sqft.”

RAFTELIS

March 17, 2026

Ms. Danea Gemmell, P.E.
District Engineer
Ironhouse Sanitary District
450 Walnut Meadows Dr.
Oakley, CA 94561

Subject: Wastewater Rate Study Report

Dear Ms. Gemmell:

Raftelis is pleased to provide this Wastewater Rate Study report for the Ironhouse Sanitary District (ISD) to address customer class billing concerns and develop a financial plan so that the ISD can continue to provide wastewater services to its customers and wastewater rates that are equitable and align with Proposition 218.

The major objectives of the study include the following:

- Develop a financial plan for the wastewater utility to ensure financial sufficiency, meet operation and maintenance (O&M) costs, ensure sufficient funding for capital replacement and refurbishment (R&R) needs, and maintain the financial health of the utility
- Develop a cost-of-service analysis and updated customer classes
- Review and update current rate structures for the wastewater utility

This report summarizes the key findings and recommendations related to the development of the financial plan and updated wastewater rates.

It has been a pleasure working with you, and we thank you and ISD staff for the support provided during this study.

Sincerely,

Theresa Jurotich, P.E., PMP
Manager

Sudhir Pardiwala, PE
Senior Principal

Contents

Tables

Figures

Appendices

THIS PAGE INTENTIONALLY LEFT BLANK

1. Executive Summary

1.1. Study Background

In 2025, Ironhouse Sanitary District (ISD) engaged Raftelis to conduct a Wastewater Rate Study to develop a solvent financial plan and to design rates for the wastewater system. ISD last conducted a comprehensive wastewater rate study in 2020 and the rates were last updated in June 2025.[1]

The major objectives of the study include the following:

- Develop a financial plan for the wastewater utility to ensure financial sufficiency, meet operation and maintenance (O&M) costs, ensure sufficient funding for capital replacement and refurbishment (R&R) needs, and maintain the financial health of the utility
- Develop a cost-of-service analysis and updated customer classes
- Review and update current rate structures for the wastewater utility

1.2. Rate Study Process

The study is informed by ISD's policy objectives, the current wastewater system rates, and the legal requirements in California (namely, Proposition 218). The resulting cost-of-service analyses and rate design processes consider all these factors and follow four key steps to derive proposed rates.

This study was conducted using industry-standard principles outlined by the Water Environment Federation's (WEF) Financing and Charges for Wastewater Systems. The overall process listed below applies to the development of wastewater rates.

1. Financial Plan: Develop cash flow projections to determine the amount of revenue required from wastewater rates to fully recover the costs of providing service.
2. Cost-of-Service Analysis: Allocate total costs to system components, and then to various user classes, based on customers' unique characteristics.
3. Rate Design: Based on cost of service, develop rates for different customer classes and sub-classes that generate sufficient revenues to recover costs and communicate the policy preferences of the agency.
4. Report Preparation: Develop a study report to document the underlying inputs, assumptions, analyses, and results of the rate study.
5. Rate Adoption: Proposed rates may be adopted by ISD only after holding a public hearing in accordance with Proposition 218 requirements.

1.3. Wastewater Summary

Raftelis conducted a status quo cash flow analysis to evaluate whether existing wastewater rate revenue adequately funds ISD's various expenses over a ten-year planning period. With support from ISD staff, annual projections of revenues, O&M expenses, debt service payments, and capital expenditures were

[1] The use of the word "wastewater" in this report (e.g., "wastewater system" or "wastewater rates") is synonymous with the words "sewer" or "sewerage" as used in other ISD ordinances and policies, such as Ordinance No. 25.

developed through fiscal year ending (FYE[2]) 2036. This report focuses on the five-year rate-setting period, FYE 2027 – FYE 2031. Table 1-1 shows the proposed revenue adjustments for the rate-setting period.

Table 1-1: Proposed Wastewater Revenue Adjustments

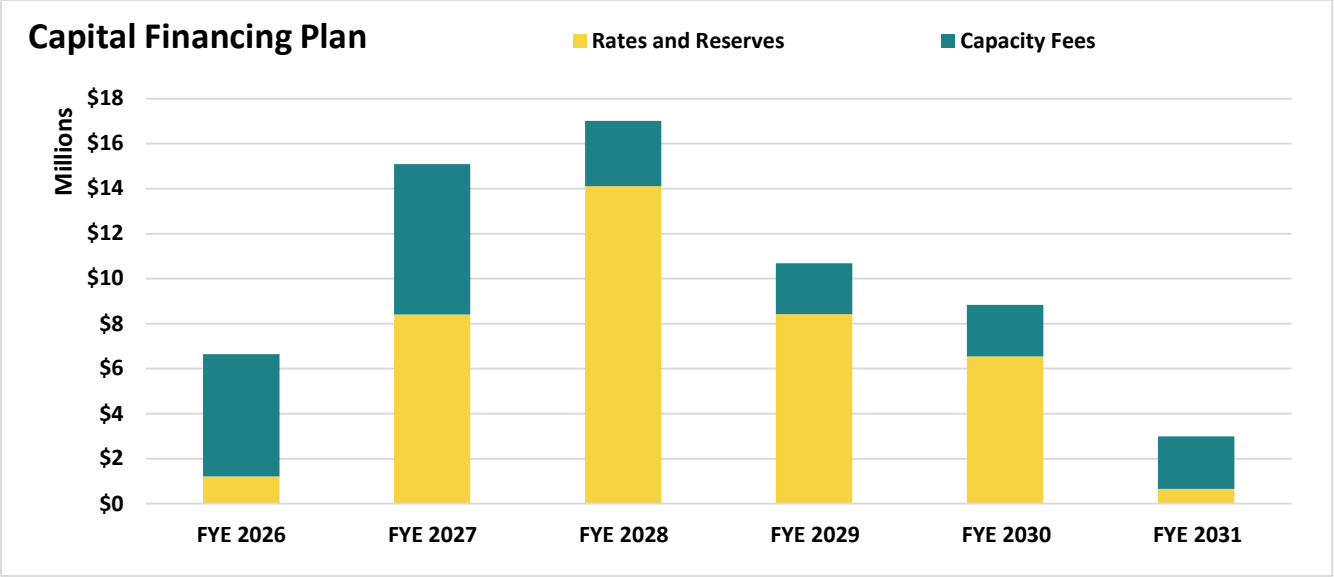
Effective Date	Revenue Adjustment
1-Jul-26	4.50%
1-Jul-27	6.25%
1-Jul-28	6.25%
1-Jul-29	6.25%
1-Jul-30	5.25%

Key factors influencing the need for proposed revenue adjustments include:

- Cost inflation: Operating costs continue to increase year-over-year due to inflationary pressures. The San Francisco-Oakland-Hayward Consumer Price Index has increased approximately 20 percent since ISD's last rate study.
- Planned capital expenditures including a parallel force main project and biosolids improvement facility
- Draw down of reserves to minimize revenue adjustments

Figure 1-1 shows the proposed capital improvement plan over the rate-setting period. Capital projects are assumed to be funded by rate revenue, capital reserves, and capacity fee revenue.

Figure 1-1: Wastewater Capital Improvement Plan



[2] The ISD fiscal year begins on July 1 and ends on June 30 of the following calendar year. For example, FYE 2027 is July 1, 2026 through June 30, 2027.

Figure 1-2 shows the proposed versus status quo (i.e., no rate revenue adjustment) Wastewater Enterprise operating financial plan. Revenues under the proposed financial plan and status quo financial plan are represented by the solid line and dashed line, respectively. Revenue requirements including O&M expenses, debt service, and capital projects are represented by the various stacked bars. Revenue adjustments are recommended to generate additional revenue to recover O&M expenses and debt service payments over the study period while maintaining minimum debt coverage and reserve targets. Red bars below $0 indicate a draw on operating reserves. Red bars above the $0 indicate additions to operating reserves.

Figure 1-2: Proposed vs. Status Quo Wastewater Financial Plan

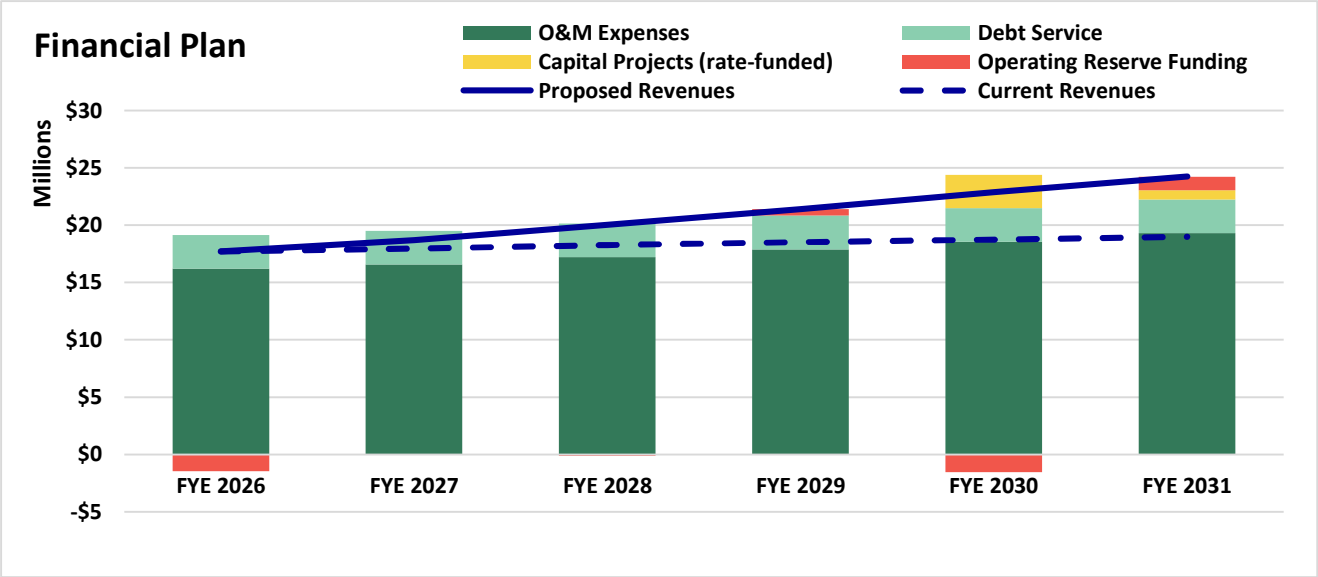


Figure 1-3 shows the projected fiscal year-ending balance under the proposed financial plan. As a result of increasing revenues to the level shown on Table 1-1, the wastewater fund balance is expected to stay above the minimum level while sustainably drawing down cash reserves toward policy levels. The minimum reserve level reflects 4 months (122 days) of operating expenses plus 1 percent of asset value plus the five-year average of capital not funded by debt, grants, or restricted reserves. The target reflects 7 months (213 days) of operating expenses plus 2 percent of asset value plus two times the five-year average of capital not funded by debt, grants, or restricted reserves.

Figure 1-3: Proposed Wastewater Financial Plan – Projected Ending Balance

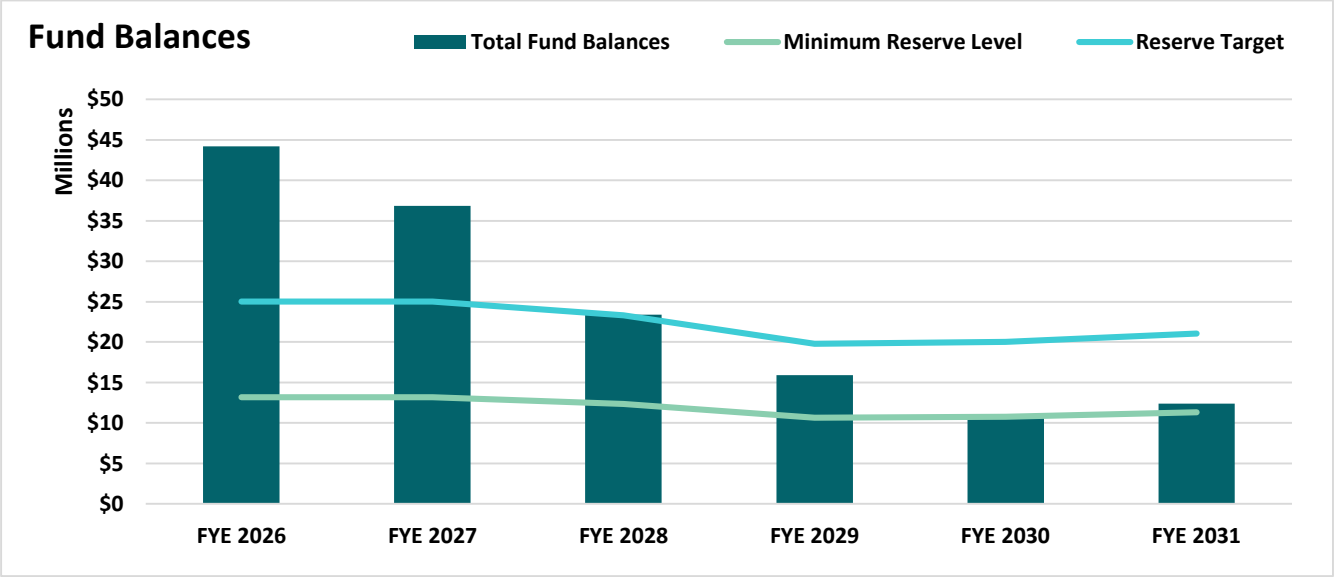
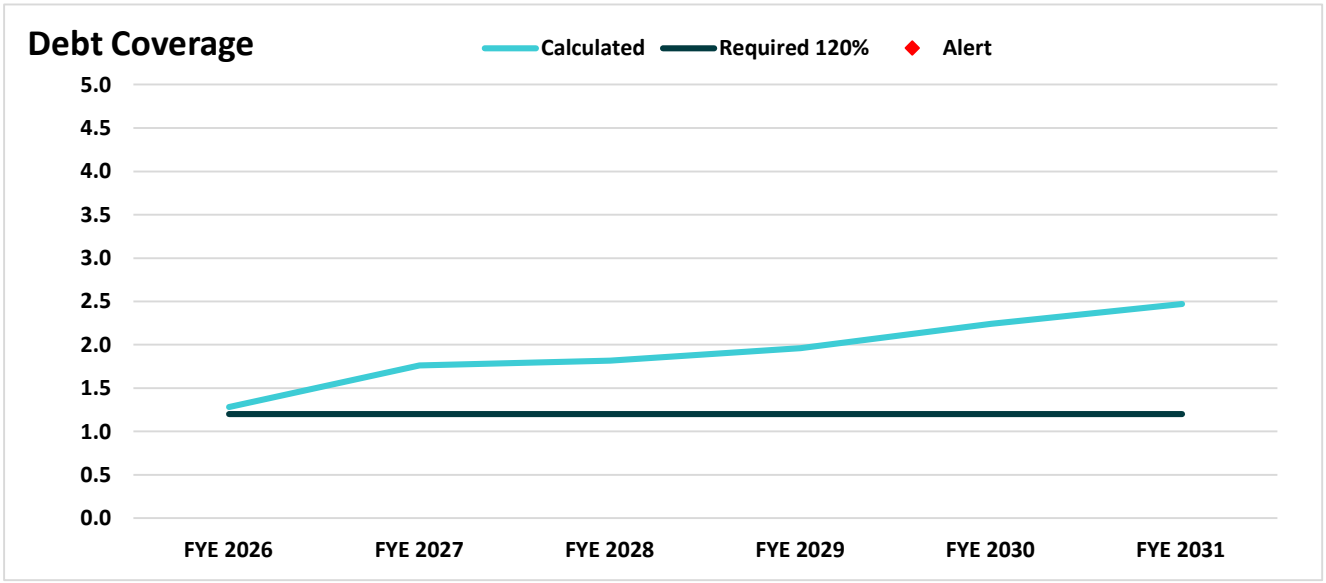


Figure 1-4 displays the debt service coverage ratio for ISD's existing loan. The proposed revenue adjustments are sufficient to satisfy debt coverage requirements. Per ISD Board direction, the financial plan does not include issuing additional debt for future capital project costs. The current loan is fully repaid in FYE 2032.

Figure 1-4: Proposed Wastewater Financial Plan – Projected Debt Coverage



1.4. Proposed Wastewater Rates

ISD's current wastewater rates and charges are a schedule of fixed charges based on the number of equivalent service units (ESUs) on each parcel. At ISD's direction, Raftelis reviewed the ESU basis for residential customers and examined the non-residential parcels and business types on those parcels. The result of this work is to develop new customer classifications and a rate structure comprised of fixed and variable components for commercial customers, charges on a per student basis for schools, and on a customer-flow-strength basis for future industrial customers. Non-residential customers are subject to a minimum charge to cover a portion of the fixed costs of the wastewater system.

Table 1-2 presents the current and proposed rates.

Table 1-2: Proposed 5-Year Wastewater Service Charge Schedule

Customer Class	Current	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
Effective Date		7/1/2026	7/1/2027	7/1/2028	7/1/2029	7/1/2030
Residential: Fixed Annual Charge ($/yr), per dwelling unit or space on parcel						
Single-Family Residential	$934.18	$967.65	$1,028.13	$1,092.39	$1,160.67	$1,221.61
Mobile Homes / Recreational Vehicles	$529.00	$628.99	$668.31	$710.08	$754.46	$794.07
Multi-family Residential	$350.88	$441.22	$531.55	$564.78	$600.08	$631.59
Accessory Dwelling Unit	$350.88	$414.25	$440.15	$467.66	$496.89	$522.98
Commercial: Metered						
Fixed Customer Component ($/parcel/yr)		$139.96	$148.71	$158.01	$167.89	$176.71
Variable Component (Water Use, $/hcf/yr)						
Commercial: Low Strength	varies	$9.01	$9.58	$10.18	$10.82	$11.39
Commercial: Medium Strength	varies	$10.54	$11.20	$11.90	$12.65	$13.32
Commercial: High Strength	varies	$11.34	$15.12	$16.07	$17.08	$17.98
Commercial: Non-Metered						
Fixed Customer Component ($/parcel/yr)		$139.96	$148.71	$158.01	$167.89	$176.71
Variable Component ($/building sqft/yr)						
Commercial: Low Strength	varies	$0.22	$0.24	$0.26	$0.28	$0.30
Commercial: Medium Strength	varies	$0.41	$0.44	$0.47	$0.50	$0.53
Commercial: High Strength	varies	$1.46	$1.56	$1.66	$1.77	$1.87
Permitted Industrial (future customers)						
Fixed Customer Component, ($/parcel/yr)		$139.96	$148.71	$158.01	$167.89	$176.71
Measured Wastewater Flow ($/hcf/yr)		$8.11	$8.62	$9.16	$9.74	$10.26
BOD ($/lb/yr)		$0.81	$0.87	$0.93	$0.99	$1.05
TSS ($/lb/yr)		$0.74	$0.79	$0.84	$0.90	$0.95
Schools ($/student/yr)	varies	$14.37	$22.10	$23.49	$24.96	$26.28
Miscellaneous*						
Non-Residential Minimum Charge ($/parcel/yr)		$479.05	$509.00	$540.82	$574.63	$604.80

* All non-residential customers are subject to a minimum charge.

2. Rate Setting Methodology

This study was conducted using industry-standard principles outlined by the Water Environment Federation (WEF) Manual of Practice No. 27. The process and approach Raftelis utilized in the study to determine wastewater rates is informed by ISD's policy objectives, the current wastewater system and rates, and the legal requirements in California (namely, Proposition 218). The resulting financial plans, cost-of-service analyses, and rate design process follows five key steps, outlined below, to determine proposed rates that fulfill ISD's objectives, meet industry standards, and align with relevant regulations.

- **Financial Plan - Projections:** The first step is to develop a multi-year financial plan that projects ISD's revenues, expenses, capital project financing, annual debt service, and reserve funding. The financial plan is used to determine the revenue adjustments, which allows ISD to recover adequate revenues to fund expenses and reserves.
- **Financial Plan - Revenue Requirement Determination:** After completing the financial plan, the rate-making process begins by determining the revenue requirement for the test year, also known as the rate-setting year. The test year for this study is FYE 2027. The revenue requirement should sufficiently fund ISD's operating costs, annual debt service (including coverage requirements), capital expenditures, and reserve funding as projected based on annual budget estimates.
- **Cost-of-Service - Analysis:** The annual cost of providing wastewater service, or the revenue requirement, is then distributed to customer classes commensurate with their use of, and burden on, the wastewater system. A cost-of-service analysis involves the following steps:
    - **Functionalize costs** – the different components of the revenue requirement are categorized into functions such as treatment, collection, customer service, etc.
    - **Allocate to cost causation components** – the functionalized costs are then allocated to cost causation components such as flow, strength, and customer service. Strength is defined by biochemical oxygen demand (BOD) and total suspended solids (TSS).
    - **Develop unit costs** – unit costs for each cost causation component are determined using units of service, such as total use, strength, equivalent service units, number of parcels, number of living units, etc., for each component.
    - **Distribute cost components** – the cost components are allocated to each customer class using the unit costs in proportion to their units of service (demand and burden on the system).
- **Rate Design:** After allocating the revenue requirement to each customer class, the project team designs and calculates rates. Rates do more than simply recover costs; within the legal framework and industry standards, properly designed rates should support and optimize ISD's policy objectives. Rates also act as a public information tool in communicating these policy objectives to customers. Rates are cost-justified to align with the constraints of Proposition 218. The rate design process also includes a rate impact analysis and sample customer bill impacts.
- **Report Preparation and Rate Adoption:** The final step in a rate study is to develop the report in conjunction with the rate adoption process. The report documents the study results and presents the methodologies, rationale, justifications, and calculations used to determine the proposed rates.

Values shown in report tables and figures are rounded to the digit shown. Therefore, any manual reproduction of the calculations shown may not match the precise results displayed in the report.

3. Financial Plan

ISD owns and operates a wastewater collection, conveyance, and treatment system that serves most of Oakley and Bethel Island, serving approximately 17,570 parcels. The major water supplier is Diablo Water District. However, most of the parcels on Bethel Island and a minor number of parcels in Oakley are served by various small water suppliers and/or wells. ISD incurs costs to collect and treat wastewater and must recover those costs through revenues. This section discusses those projected revenues and costs.

3.1. Assumptions

The study period for the financial plan is from Fiscal Year End (FYE) 2026 to 2036. The rate setting period is FYE 2027 – FYE 2031 and this report focuses on the rate setting period. ISD's fiscal year starts July 1 of each year. Various types of inputs and estimates were incorporated into this study. Assumptions were based on discussions with and direction from ISD staff, including projected parcels and living units and annual growth rates in parcels; inflationary assumptions such as salary, benefits, utilities, electric and gas for the Water Recycling Facility (WRF), and fuel; and other miscellaneous assumptions. Table 3-1 presents the inflationary escalation estimates. Assumptions for pension costs and 401(a) are projected as a percentage of base salary based on staff input and current market conditions. Additionally, ISD earns interest on cash reserves. Reserve interest rates start at 3.75 percent in FYE 2026 and conservatively decrease to 2.5 percent over the long-term. A notable increase for WRF electricity is assumed in FYE 2027 to address additional costs for a 1.5 MW solar expansion with batteries that is funded through a Power Purchase Agreement (PPA). This initiative is projected to save over $10.2 million over the next 25-years but requires higher costs in the first two years of the PPA.

Table 3-1: Inflation Factor Assumptions

Line Item	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
General	3.00%	3.00%	3.00%	3.00%	3.00%
Salary	3.75%	3.75%	3.75%	3.50%	3.50%
Benefits	5.00%	5.00%	5.00%	5.00%	5.00%
Utilities	8.35%	8.35%	5.40%	5.40%	5.40%
Electric and Gas	18.73%	4.57%	2.19%	2.80%	1.95%
Capital	3.00%	3.00%	3.00%	3.00%	3.00%
Chemicals	6.00%	6.00%	6.00%	6.00%	6.00%
Insurance	10.00%	10.00%	10.00%	10.00%	10.00%
Fuel	7.08%	7.08%	7.08%	7.08%	7.08%
Pension (as percent of base salary)	28.00%	28.00%	28.00%	28.00%	20.00%
401(a) (percent of base salary)	6.20%	6.20%	6.20%	6.20%	6.20%
Interest Rate on Reserves	3.63%	3.50%	3.38%	3.25%	3.13%

Table 3-2 shows the growth rate assumptions that were applied to the FYE 2026 billing data. To be conservative in projections, growth is limited to the single-family customer class at a rate of 1.5 percent per year.

Table 3-2: Account Growth Rate Assumptions

Line Item	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
Single-Family Residential	1.5%	1.5%	1.5%	1.5%	1.5%
Multi-family Residential	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial	0.0%	0.0%	0.0%	0.0%	0.0%
Industrial	0.0%	0.0%	0.0%	0.0%	0.0%
Mobile Home Park	0.0%	0.0%	0.0%	0.0%	0.0%
Public Building	0.0%	0.0%	0.0%	0.0%	0.0%
Recreational	0.0%	0.0%	0.0%	0.0%	0.0%
Restaurant	0.0%	0.0%	0.0%	0.0%	0.0%

3.2. Financial Plan

3.2.1. Projected Revenue

ISD's wastewater rates comprise a fixed annual charge by customer class as defined by the Land Use Category in Contra Costa County's parcel database. The charges are per equivalent service unit (ESU) with one ESU representing the estimated wastewater flow generated by a typical single-family residence.[3] Parcels with land uses expected to generate higher wastewater flows are assigned multiple ESUs and therefore pay a proportionally higher charge. The ESU framework was established in Ordinance No. 25 - Sewer Use, adopted by ISD in 1993. Section 3 of the ordinance, Establishment of Units, includes a table of multipliers that assigns ESU values to various land categories. These multipliers are used to calculate sewer service fees. The current rates are shown in Table 3-3.

Table 3-3: Current Rates

Customer Class	Fixed Charge, $/ESU/yr
Single-Family Residential	$934.18
Single-Family Residential with ADU	$1,285.06
Multi-family Residential	$350.88
Commercial	$896.26
Industrial	$1,133.90
Mobile Home Park	$529.00
Public Building	$877.72
Recreational	$873.72
Restaurant	$893.57

ESU = equivalent service unit

Table 3-4 displays the projected revenues for FYE 2026 – FYE 2031 including the revenue from current rates and other operating and non-operating revenues, except interest income. The numbers are rounded and may not add up exactly as shown.

[3] As used in this report, the phrase "equivalent service unit (ESU)" is synonymous with the phrase "equivalent dwelling unit (EDU)" as used in other District ordinances and policies.

Table 3-4: Projected Revenues Under Existing Rates, FYE 2026 – FYE 2031

Line Item	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
Revenue from Current Rates	$15,403,733	$15,586,832	$15,815,370	$16,019,310	$16,226,309	$16,436,413
Taxes	$438,000	$508,800	$534,240	$560,952	$589,000	$618,450
Jersey Island Leases & Misc.	$863,160	$854,660	$854,660	$854,660	$854,660	$854,660
Other Revenue	$676,972	$744,261	$811,944	$825,879	$840,231	$855,014
Total Revenues	$17,381,865	$17,694,554	$18,016,214	$18,260,800	$18,510,200	$18,764,537

3.2.2. Projected Operating and Maintenance Expenses

Table 3-5 displays total projected operating and maintenance (O&M) expenses for the study period. FYE 2026 represents ISD's adopted O&M budget. FYE 2027 and beyond are forecasted from the FYE 2026 budget and the inflationary assumptions in Table 3-1. Expenses are projected to increase by an average of approximately 3.6 percent per year over the rate-setting period.

Table 3-5: O&M Expenses for FYE 2026 – FYE 2031

Line Item	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
Salaries & Benefits	$9,412,926	$10,304,685	$10,797,427	$11,318,367	$11,849,982	$12,230,498
Admin	$1,318,400	$1,265,946	$1,228,390	$1,343,698	$1,303,904	$1,426,287
O&M	$2,391,266	$2,360,259	$2,439,569	$2,521,816	$2,607,123	$2,695,622
Professional Services	$2,027,900	$1,416,217	$1,458,704	$1,384,450	$1,425,984	$1,532,523
Utilities & Fuel	$1,052,300	$1,223,167	$1,289,371	$1,327,704	$1,373,050	$1,411,195
Total	$16,202,792	$16,570,274	$17,213,461	$17,896,035	$18,560,043	$19,296,126

3.2.3. Projected Capital Improvement Program

Table 3-6 presents ISD's wastewater capital improvement program. The program averages $10 million per year over the rate-setting period, which includes a 14-inch parallel force main repair/replacement project, collection system renovation, influent piping and screening improvements, SCADA and programable logic control upgrades, scheduled equipment rehabilitation and replacement, and biosolids improvement facility projects. Capital cost inflation is applied to project costs in FYE 2027 and beyond based on the inflationary assumptions from Table 3-1. Appendix A shows a detailed listing of planned wastewater projects within each program.

Table 3-6: Capital Expenses for FYE 2026 – FYE 2031

Line Item	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
Collection System Program	$4,636,596	$8,123,000	$8,886,000	$4,847,000	$801,000	$1,227,000
Water Reclamation Facility Program	$1,435,000	$5,470,000	$6,645,000	$4,515,000	$6,605,000	$960,000
General Improvement Program	$216,000	$302,500	$152,500	$57,500	$82,500	$32,500
Recycled Water Program	$5,000	$408,000	$10,000	$10,000	$13,000	$10,000
Estimated Contingency	$350,000	$350,000	$350,000	$350,000	$350,000	$350,000
Total, Uninflated	$6,642,596	$14,653,500	$16,043,500	$9,779,500	$7,851,500	$2,579,500
Total, Inflated	$6,642,596	$15,093,105	$17,020,549	$10,686,324	$8,836,932	$2,990,347

3.2.4. Existing and Proposed Debt

ISD has a state revolving fund loan. The annual loan service is approximately $2.9 million per year and is due to be repaid in FYE 2032. The debt reserve that was set aside for the loan will be used to make the final payment.

Per ISD direction, no future debt issues are planned within this study horizon.

3.2.5. Reserve Targets

ISD has two main unrestricted reserve funds, which are shown in Table 3-7.

Table 3-7: Operating and Capital Reserve Fund Policy

Fund	Target / Recommendation	FYE 2026
Operating		
Minimum	4 months of operating costs	$5,400,931
Target	7 months of operating costs	$9,451,629
Capital		
Minimum	1 % of capital assets + average of the 5-year, cash-funded CIP*	$7,784,574
Target	2 times the minimum	$15,569,147

* cash-funded means projects not funded by debt, grant, or restricted reserves.

3.2.6. Proposed Overall Revenue Adjustments

To ensure that ISD will have adequate revenues to fund operating expenses, capital expenditures, and meet minimum reserve levels, Raftelis recommends the following wastewater revenue adjustments (Table 3-8). A detailed discussion of the proposed wastewater financial plan is presented in the following subsection.

Table 3-8: Proposed Overall Wastewater Revenue Adjustments

Effective Date	Revenue Adjustment
1-Jul-26	4.50%
1-Jul-27	6.25%
1-Jul-28	6.25%
1-Jul-29	6.25%
1-Jul-30	5.25%

3.2.7. Proposed Financial Plan

The revenue adjustments in Table 3-8 are necessary for ISD to continue providing the level of service its customers expect and to meet financial obligations and minimum reserves. The next three figures graphically display the effects of the proposed revenue adjustments on ISD's financial position.

Figure 3-1 displays the proposed operating financial plan. The solid line displays the proposed revenues, and the dashed line shows projected revenues under existing rates. The columns show projected expenses. Revenues under current rates do not generate sufficient revenue to cover expenses as the dashed line is below the top of the columns. The red bars show when funds are added to the ending balance (above the $0 line) or drawn down (below the $0 line).

Figure 3-1: Proposed Operating Financial Plan

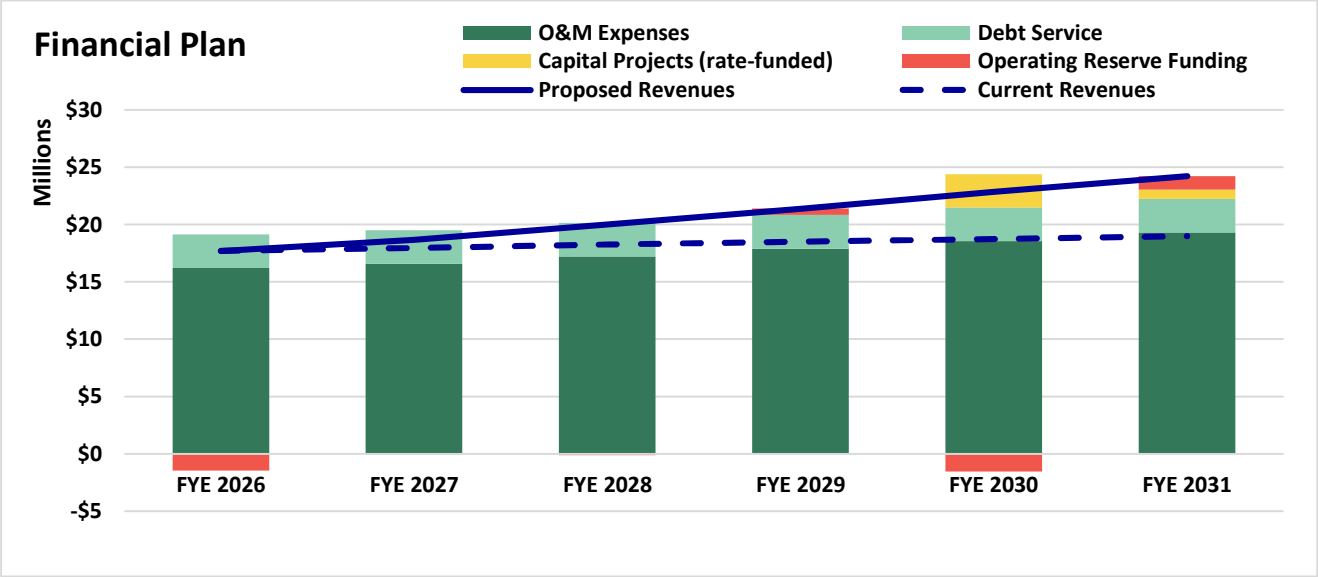


Figure 3-2 displays the capital improvement plan as well as the sources of funding. The yellow bars display the amount of capital ISD will expend per year that is funded through existing reserves and/or future rate revenues. The teal bars display the amount of capital that will be capacity fee funded.

Figure 3-2: Proposed Capital Expenditures

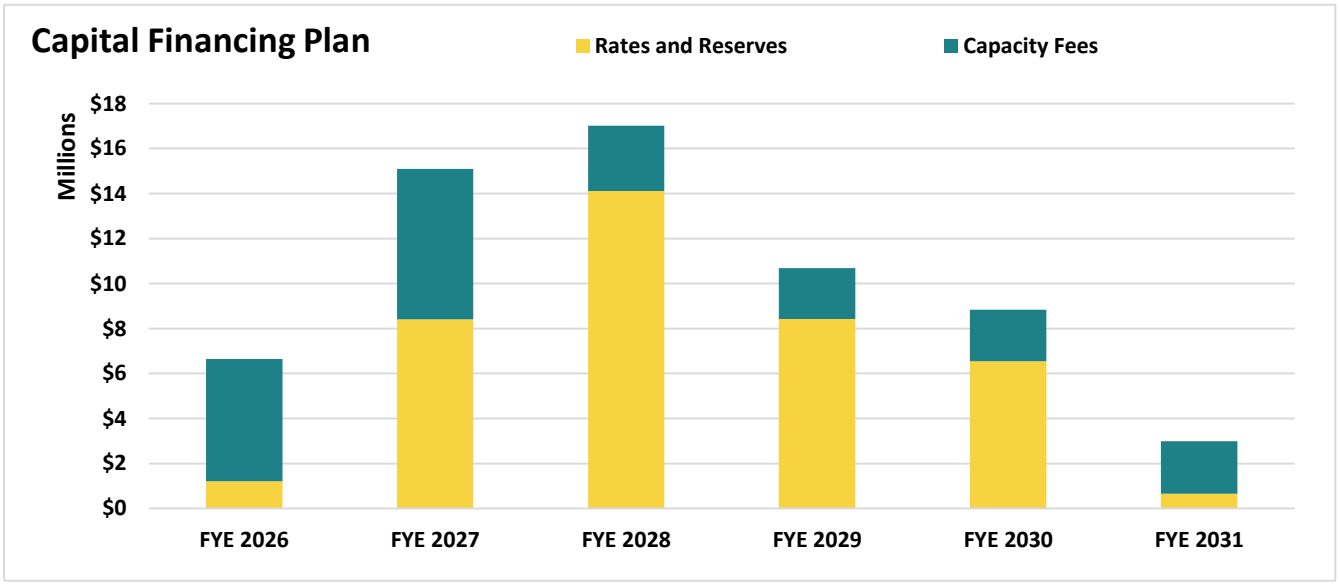


Figure 3-3 displays the projected wastewater fund balance (operating and capital combined). By using a mix of increases to rate-based revenue, and a prudent draw on existing reserves, the wastewater fund balance is drawn down to near minimum levels by FYE 2030, before increasing in FYE 2031.

Figure 3-3: Proposed Wastewater Fund Balance

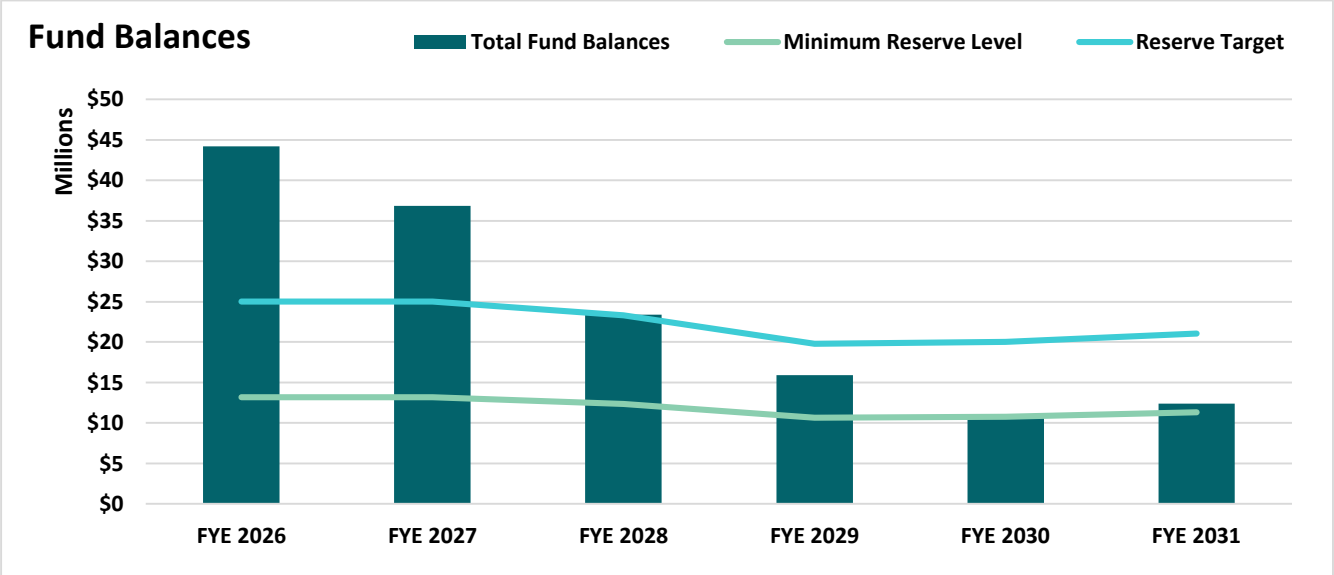


Table 3-9 displays the proposed financial plan scenario cashflow. Lines 2 – 5 show the projected revenue. Lines 7 – 11 show the projected operating and maintenance costs. Line 13 shows the Net Revenues, which is revenues (Line 6) less total operating and maintenance expenses (Line 12). Net Revenues are used to pay debt service (Line 14) and cash fund capital projects (Line 15). Line 16 shows transfers coming in from the rate stabilization fund. The annual surplus (positive value) or deficit (negative value) is shown in Line 17. This represents the amount of cash added to or drawn from reserves. Line 18 shows the Ending Balance. The balance can be compared to the minimum (Line 19) and target (Line 20) operating reserve levels. The balance is projected to be above the minimum balance over the rate-setting period. Line 21 shows the projected debt service coverage ratio, which also includes capacity fee revenues. Debt coverage is expected to be above the required 1.20.

Table 3-9: Proposed Operating Fund Cashflow

No.	Line Item	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
1	Beginning Operating Balance	$8,896,216	$7,443,967	$7,398,106	$7,279,091	$7,840,332	$6,299,535
	Revenues						
2	Under Existing Rates	$15,403,733	$15,586,832	$15,815,370	$16,019,310	$16,226,309	$16,436,413
3	Proposed Revenue Adjustments	$0	$701,407	$1,744,633	$2,878,783	$4,112,375	$5,247,230
4	Other Revenues	$1,978,132	$2,107,721	$2,200,844	$2,241,491	$2,283,891	$2,328,124
5	Interest Income	$306,378	$269,013	$256,851	$255,140	$229,773	$215,284
6	Subtotal Revenues	$17,688,244	$18,664,974	$20,017,698	$21,394,723	$22,852,348	$24,227,052
	Operating Expenses						
7	Salaries & Benefits	$9,412,926	$10,304,685	$10,797,427	$11,318,367	$11,849,982	$12,230,498
8	Admin	$1,318,400	$1,265,946	$1,228,390	$1,343,698	$1,303,904	$1,426,287
9	Operating & Maintenance	$2,391,266	$2,360,259	$2,439,569	$2,521,816	$2,607,123	$2,695,622
10	Professional Services	$2,027,900	$1,416,217	$1,458,704	$1,384,450	$1,425,984	$1,532,523
11	Utilities & Fuel	$1,052,300	$1,223,167	$1,289,371	$1,327,704	$1,373,050	$1,411,195
12	Subtotal Operating	$16,202,792	$16,570,274	$17,213,461	$17,896,035	$18,560,043	$19,296,126
13	Net Revenues	$1,485,452	$2,094,699	$2,804,237	$3,498,688	$4,292,305	$4,930,925
14	Debt Service	$2,937,701	$2,937,701	$2,937,701	$2,937,701	$2,937,701	$2,937,701
15	Rate Funded CIP	$0	$0	$0	$0	$2,895,406	$814,110
16	Transfers In(Out)	$0	$797,140	$14,448	$253	$4	$0
17	Annual Surplus (Deficit)	-$1,452,249	-$45,861	-$119,015	$561,240	-$1,540,797	$1,179,115
18	Ending Operating Balance	$7,443,967	$7,398,106	$7,279,091	$7,840,332	$6,299,535	$7,478,650
19	*Minimum Operating Reserve Level*	*$5,400,931*	*$5,523,425*	*$5,737,820*	*$5,965,345*	*$6,186,681*	*$6,432,042*
20	*Operating Reserve Target*	*$9,451,629*	*$9,665,993*	*$10,041,185*	*$10,439,354*	*$10,826,692*	*$11,256,074*
21	Debt Coverage	1.28	1.76	1.82	1.96	2.24	2.47

Table 3-10 shows the proposed sources and uses of capital funds. Over the study period, capital reserves are drawn down to the minimum capital reserve level. Reserve funding of capital projects is supplemented with capacity fee revenue, trunkline reserves, rate funding, and interest income. No new debt is planned.

Table 3-10: Proposed Capital Sources & Uses of Funds

Line Item	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
Beginning Capital Balance	$36,668,384	$36,744,866	$29,443,273	$16,094,617	$8,064,938	$4,606,275
Sources of Funds						
Rate Funded	$0	$0	$0	$0	$2,895,406	$814,110
Interest	$1,296,187	$1,106,406	$768,276	$388,501	$187,255	$130,180
Capacity Fee Res. & Revenues	$5,072,891	$3,080,106	$2,534,466	$2,261,683	$2,295,609	$2,330,043
Transfers from Trunkline	$350,000	$3,605,000	$369,151	$6,460	$0	$0
Debt Funded	$0	$0	$0	$0	$0	$0
Total Sources	$6,719,078	$7,791,512	$3,671,894	$2,656,644	$5,378,270	$3,274,332
Uses of Funds						
Capital	$6,642,596	$15,093,105	$17,020,549	$10,686,324	$8,836,932	$2,990,347
Total Uses	$6,642,596	$15,093,105	$17,020,549	$10,686,324	$8,836,932	$2,990,347
Ending Capital Balance	$36,744,866	$29,443,273	$16,094,617	$8,064,938	$4,606,275	$4,890,260
Minimum Capital Reserve Level	*$7,784,574*	*$7,672,693*	*$6,630,355*	*$4,681,335*	*$4,606,275*	*$4,890,260*

4. Wastewater Cost of Service

The total revenue requirement is, by definition, the net cost of providing service. This cost-of-service is then used as the basis to develop unit rates for wastewater parameters and to allocate costs to the various user classes. The concept of proportionate allocation to user classes implies that allocations should take into consideration the quantity of wastewater a user contributes as well as the strength (i.e., treatment requirements) of the wastewater.

The cost-of-service analysis and rate calculations consist of the following steps:

1. Determination of the total costs to be recovered from rates (cost-of-service)
2. Determination of the wastewater loadings for each customer class, to ensure costs are allocated to each class proportionately
3. Allocation of the cost-of-service to the loading parameters -- Flow, Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) as well as billing/ customer service
4. Calculation of unit costs for the four parameters and the costs to serve the various user classes based on their loadings and parcels
5. Calculation of rates for each user class

This section of the report discusses the allocation of operating and capital costs to the Flow, BOD, TSS, and billing/ customer service parameters, the determination of unit rates, and the calculation of user class cost responsibility.

In this study, wastewater rates were calculated for FYE 2027, and accordingly FYE 2027 revenue requirements are used in the cost allocation process. Rates for subsequent years during the rate-setting period are based on the overall revenue adjustment shown for the respective year in Table 3-8.

4.1. Costs-of-Service to be Allocated

The annual cost of service to be recovered from wastewater rates (i.e., revenue requirement) includes O&M expenses (Table 3-5), capital improvement projects (Table 3-6), and debt service. The total test year net cost-of-service to be recovered from ISD's wastewater users, is shown Line 13 of Table 4-1. The cost-of-service analysis is based on the need to generate revenues adequate to meet this estimated revenue requirement. As part of the cost-of-service analysis, revenues from sources other than wastewater rates and charges (i.e., revenue offsets) are deducted from the appropriate cost elements (Line 10). Adjustments are also made for transfers to/from reserves (Line 11). The net revenue requirements are shown in Line 13.

Table 4-1: Allocation of Wastewater Revenue Requirements, Test Year

No.	Line Item	Operating	Capital-Related	Total
	Revenue Requirements			
1	O&M Expenses	$16,570,274		$16,570,274
2	Debt Service		$2,937,701	$2,937,701
3	Capital Projects		$15,093,105	$15,093,105
4	Total - Revenue Requirements	$16,570,274	$18,030,806	$34,601,080
	Revenue Offsets			
5	Other Revenue	-$2,107,721	$0	-$2,107,721
6	Capacity Fees		-$3,080,106	-$3,080,106
7	Trunkline Reserves		-$3,605,000	-$3,605,000
8	Interest Income	-$269,013	-$1,106,406	-$1,375,419
9	Transfer from Rate Stabilization	-$797,140	$0	-$797,140
10	Total - Revenue Offsets	-$3,173,874	-$7,791,512	-$10,965,386
	Adjustments			
11	Transfer to/(from) reserves	-$45,861	-$7,301,593	-$7,347,454
12	Total - Adjustments	-$45,861	-$7,301,593	-$7,347,454
13	Total Revenue to be Recovered from Rates	$13,350,539	$2,937,701	$16,288,240

To allocate the cost of service to the various user classes in proportion to their flow, strength, and customer contributions, costs first need to be allocated to selected wastewater cost-causation parameters. The following subsection describes the allocation of the operating and capital cost-of-service amounts to the parameters of Flow, BOD, TSS, and customer.

4.2. Cost Allocation to Wastewater Cost Causation Parameters

The cost-of-service allocations in this study are based on Raftelis' experience with wastewater collection systems and treatment plants and are consistent with the Water Environment Federation (WEF) Manual of Practice No. 27.

The three main cost causation parameters are Flow, BOD, and TSS. BOD and TSS constitute the strength components of the wastewater discharge. Additional parameters include infiltration and inflow and customers. Costs are assigned based on the parameters that dictate the design of each process. The allocation of costs to the three main parameters involves:

1. Detailed breakdown and functionalization of O&M costs.
2. Itemization of the capital assets by functions such as collection, treatment, etc. to allocate capital-related costs.
3. Allocation of the functional costs to the wastewater cost causation parameters.

O&M line items are allocated to the following functional parameters:

- Collection: the collection system is designed to collect wastewater from ISD's customers and convey the wastewater to the treatment plant.

- Treatment: costs associated with treating and disposing of the wastewater flow and solids in the flow. The allocation is based on the asset value of the treatment plant process assets and the functions of each process.
- Customer: these are costs associated with billing and customer service
- General & Admin: these are general costs associated with supporting ISD's operations.

Table 4-2 shows the basis for allocating each functional category to the various cost causation components. This provides the basis for allocating O&M and capital expenses in the following subsections. The Collection functional category is allocated entirely to the Flow cost causation component because collection-related costs depend on the quantity of wastewater rather than the strength of wastewater. The Treatment functional category costs are allocated 41.4 percent to Flow, 29.0 percent to BOD, and 29.6 percent to TSS based on ISD's and Raftelis' estimate of the water reclamation facility asset costs and functions of each major treatment system of that facility. The General & Admin functional category is allocated 27 percent to Customer for covering costs related to billing and customer service and 73 percent to General.

Table 4-2: O&M Cost Category Allocations

Function	Rationale	Flow	BOD	TSS	Customer	General	Total
Collection	Flow	100.0%					100.0%
Treatment	Flow & Strength	41.4%	29.0%	29.6%			100.0%
General & Admin	General/Customer				27.0%	73.0%	100.0%

Next, the O&M costs are allocated to the functions (Collection, Treatment, and General & Admin) so that they can be allocated to the cost categories. Raftelis worked with ISD to assign each line item O&M expense to the most closely associated functional category. The results of that allocation are shown in the Total column of Table 4-3. Those totals are then allocated to the cost categories using the allocations in Table 4-2.

Table 4-3: O&M Test Year Allocation

Function	Flow	BOD	TSS	Customer	General	Total
Collection	$3,286,449	$0	$0	$0	$0	$3,286,449
Treatment	$2,801,132	$1,961,709	$2,002,532	$0	$0	$6,765,373
General & Admin	$0	$0	$0	$1,759,982	$4,758,470	$6,518,452
Total	$6,087,581	$1,961,709	$2,002,532	$1,759,982	$4,758,470	$16,570,274
Percent Allocation	37%	12%	12%	11%	29%	100%

A similar process was completed for capital-related costs using capital assets to determine the functional basis. The distribution of short-term capital project costs can be heavily weighted to specific cost-causation components based on the type of projects. Use of short-term plans to allocate capital costs may cause rates to fluctuate and result in customer confusion. The overall wastewater asset base, however, is considerably stable in the long-term. Therefore, the asset database is more representative of long-term capital investment in ISD's wastewater system. Thus, functionalized capital assets are used to allocate capital costs.

ISD provided Raftelis with a detailed asset listing that included the original cost of each individual wastewater asset. Raftelis calculated the replacement cost less depreciation (RCLD) of each asset based on net book value using the Engineering News-Record's 20-City Average Cost Construction Index to account for capital cost inflation. As part of the capital asset analysis, Raftelis attributes each individual asset to a function based on

the categorizations in the provided asset database. Total wastewater asset value (on a RCLD basis) by functional category is shown in the Total column of Table 4-4.

Each capital asset Function is then allocated to the cost categories (Flow, BOD, TSS, Customer, General) based on the rationale shown in Table 4-4. Functions allocated like Flow & Strength are allocated like Treatment, as shown in Table 4-2. Admin functions are allocated like General/Customer as shown in Table 4-2. Operating functions are allocated like the total operation and maintenance costs shown in Table 4-3.

Table 4-4: Asset Allocations

Function	Rationale	Flow	BOD	TSS	Customer	General	Total
Collections	Flow	$47,142,465	$0	$0	$0	$0	$47,142,465
Recycled Water	Flow	$48,137,496	$0	$0	$0	$0	$48,137,496
Vehicles	General	$0	$0	$0	$0	$728,144	$728,144
Land	General	$0	$0	$0	$0	$21,983,307	$21,983,307
Admin	General/Customer	$0	$0	$0	$310,048	$838,279	$1,148,328
Jersey	General	$0	$0	$0	$0	$200,924	$200,924
Equipment-Field	Operating	$85,031	$27,401	$27,971	$24,583	$66,466	$231,453
Equipment-Maintenance	Operating	$16,136	$5,200	$5,308	$4,665	$12,613	$43,923
Equipment-Office	General	$0	$0	$0	$0	$160,219	$160,219
Equipment-WRF	Flow & Strength	$4,529,484	$3,172,120	$3,238,132	$0	$0	$10,939,737
Total		$99,910,612	$3,204,721	$3,271,412	$339,297	$23,989,952	$130,715,994
Percent Allocation		76.4%	2.5%	2.5%	0.3%	18.4%	100.0%

The net revenue requirements for operating and capital-related costs from Table 4-1 are distributed to the cost components based on the allocations developed above, the results of which are shown in Table 4-5. The Total for Lines 1 – 3 match the corresponding totals for net revenue requirements due to operating and capital-related costs from Table 4-1. The general operating costs are reallocated to the direct cost components based on the allocation of Line 1 costs excluding general. The general capital-related costs are reallocated to the main cost components based on the allocation of Line 2 costs excluding general. Summation of Lines 4 and 5 results in the total adjusted cost of service (adjusted net revenue requirements).

Table 4-5: Adjusted Cost of Service

No	Revenue Requirement	WW Flow	BOD	TSS	Customer	General	Total
1	Net Operating Revenue Requirement	$4,904,716	$1,580,533	$1,613,424	$1,418,004	$3,833,862	$13,350,539
2	Net Capital Revenue Requirement	$2,245,383	$72,023	$73,521	$7,625	$539,148	$2,937,701
3	**Total - Cost of Service**	**$7,150,099**	**$1,652,556**	**$1,686,946**	**$1,425,629**	**$4,373,010**	**$16,288,240**
4	Allocation of General Costs - Operating	$1,975,900	$636,729	$649,980	$571,253	-$3,833,862	$0
5	Allocation of General Costs - Capital	$504,719	$16,189	$16,526	$1,714	-$539,148	$0
6	**Total - Adjusted Cost of Service**	**$9,630,718**	**$2,305,474**	**$2,353,451**	**$1,998,596**	**$0**	**$16,288,240**

4.3. Proposed Customer Class Update

ISD currently charges a flat annual fee per parcel per ESU based on land use category in the county's parcel database and the number of ESUs assigned to that parcel. Those ESU definitions are approximately 33 years old. Additionally, the generic land use description may not reflect what is on the parcel, particularly for non-residential properties. Therefore, ISD directed Raftelis to develop a revised rate structure.

4.3.1. Residential Parcels

Raftelis performed a density analysis to define the relationship between the different types of residential customers. Based on data from the 5-year American Community Survey for 2023[4] for the Oakley and Bethel Island areas, Multi-family residences are 0.6 times the density of Single-Family residences. Similarly, Mobile Homes / Recreational Vehicle residences are 0.75 times the density of Single-Family residences. Density for residential use categories means the number of persons per dwelling unit. Since the survey does not specifically address accessory dwelling units (ADU), Raftelis presumed a density ratio of 0.5 or 1.8 persons per household, which is a reasonable estimate based on the typical square footage and number of bedrooms in an ADU compared to the primary residence on the parcel. Since the strengths are the same for the residential customers, these density ratios reflect the ESUs for each parcel type.

Table 4-6: Current and Proposed ESUs

Residential Class	Current	Density	Proposed
Single-Family Residential	1.00	3.59	1.00
Mobile Homes / Recreational Vehicles	0.57	2.71	0.75
Multi-family Residential	0.38	2.15	0.60
Accessory Dwelling Unit	0.38	1.80	0.50

4.3.2. Non-Residential Parcels

For non-residential parcels, Raftelis worked with ISD to determine the type of business on each parcel. The type of business informed the new customer class assignment: school, commercial-low, commercial-medium, and commercial-high strength. Industry-appropriate strength concentrations were determined for each class.

Raftelis and ISD utilized non-residential water use data and return to sewer factors to assign sewer flow rates for accounts served by Diablo Water District. For non-residential parcels with unmetered water use, ISD estimated the square footage of the structure(s) on each parcel. A recent study of wastewater flows per square foot for different commercial property types[5] was used to estimate flow for parcels with unmetered water. Figure 4-1 shows examples of the types of business that fall into the new commercial classifications.

[4] Most recent data available at the time of the study.

[5] *Wastewater Flow and Loadings Study – Summary Report*, Carollo, June 2025

Figure 4-1: Examples of the Types of Business in New Commercial Classifications

4.4. Mass Balance Analysis

The next step of the wastewater cost-of-service analysis is to attribute flow and strength loadings entering ISD's wastewater treatment plant to various user classifications. This is necessary to reasonably allocate the Flow, BOD, TSS and customer cost causation components to each customer class for recovery through the proposed wastewater rates.

Since wastewater flows and strengths are not directly measured for every customer, a mass balance is performed on FYE 2025 data to estimate and validate the wastewater loadings (flow and strength) generated by each class. The result is attribution of flow and strength loadings to each customer class, which are then applied to the test year cost-of-service analysis. Key inputs and assumptions include:

- While wastewater discharged into sewers for most customers is not metered when it enters the wastewater system, the total amount of flow and strength entering the treatment plant and treated every day is a measured quantity. The influent wastewater flow is metered at the headworks and measured strengths based on monthly laboratory samples for FYE 2025 were provided by ISD.
- Non-residential metered customer FYE 2025 water use provided by ISD.
- Non-residential non-metered customer wastewater flow is based on typical wastewater flows per square foot of building space by customer type as provided in the June 2025 California Association of Sanitation Agencies (CASA) report and the estimated square footage of buildings on the parcel as provided by ISD.
- Estimated wastewater flow for non-metered customers is adjusted to 50 percent of calculated flow reflecting the seasonal use of these commercial facilities.
- Assumed strength concentrations for non-residential customers are estimated based on industry averages[6].
- Schools are presumed to be in session 180 days per year and have an estimated water use of 5 gallons per day per student (1.2 hcf/student) for elementary schools and 10 gallons per day per student (2.41 hcf/student) for intermediate and high schools.

[6] Based on loading factors used by Los Angeles County Sanitation District and as provided in the June 2025 California Association of Sanitation Agencies (CASA) report.

- Residual plant influent is attributable to residential classes' wastewater generation, which is the difference between net plant influent and estimated wastewater generation from all non-residential sources is residential wastewater flow. After applying all residual wastewater generation to residential customers, Raftelis estimates that the residential wastewater discharge factor for ISD's wastewater service is approximately 58 gallons per capita per day (gpcd). The flow is reasonably close to the former state standard of 50 gpcd. The estimated residential strength concentration is 385 and 447 milligrams per liter (mg/L) of BOD and TSS, respectively. While these are higher than historical values, Raftelis has observed significant increases in wastewater concentrations in California as indoor water use and wastewater flows decrease.

Table 4-7 shows the mass balance for FYE 2025.

Table 4-7: Mass Balance Calendar, FYE 2025

Historical: FYE 2025	Water Use (hcf)	Return Factor	WW Flow (hcf)	WW Flow (MG)	BOD (lbs/yr)	TSS (lbs/yr)	BOD (mg/L)	TSS (mg/L)	Units	WW (hcf/unit)	Other
Total Plant Influent			1,301,184	973	3,074,341	3,405,511	378	419			
Less: I&I	10%		130,118	97	243,691	243,691	300	300			
Net Customer Plant Influent			1,171,066		2,830,650	3,161,820					
Non-Residential: Metered											
Commercial: Low Strength	60,436	90%	54,392	41	68,931	65,196	203	192			
Commercial: Medium Strength	11,467	90%	10,320	8	27,511	20,488	427	318			
Commercial: High Strength	24,038	90%	21,634	16	136,273	77,928	1,009	577			
Subtotal - Non-Residential: Metered	95,941		86,347	65	232,715	163,612					
Non-Residential: Non-metered	Estimated								Sqft	per sqft	Seasonal Adjustment
Commercial: Low Strength	6,125	90%	5,513	4	6,986	6,608	203	192	262,090	0.042	50%
Commercial: Medium Strength	1,165	90%	1,049	1	2,795	2,082	427	318	30,466	0.069	50%
Commercial: High Strength	2,898	90%	2,608	2	16,430	9,396	1,009	577	22,700	0.230	50%
Subtotal - Non-Residential: Non-Metered	10,188		9,170	7	26,211	18,085			315,256		
Schools	Estimated								Students	per student	School days/yr
Elementary	3,232	100%	3,232	2	4,645	5,023	230	249	2,686	1.20	180
Intermediate & High School	11,952	100%	11,952	9	17,180	18,579	230	249	4,967	2.41	180
Subtotal Schools	15,183		15,183	11	21,825	23,602	230	249	7,653		
Net Residential Flow	Estimated								Units or MH/RV spaces		
Single-Family Residential	1,485,738	63%	936,015	700	2,243,944	2,600,736	385	447	13,903		
Mobile Homes / Recreational Vehicles	77,839	95%	73,947	55	185,823	216,658	385	447	1,043		
Multi-family Residential	53,458	89%	47,578	36	113,248	131,132	385	447	1,231		
Accessory Dwelling Unit	2,826	100%	2,826	2	6,885	7,996	385	447	76		
Subtotal - Net Residential	1,619,861		1,060,366	793	2,549,899	2,956,522	385	447	16,253		

4.5. Unit Cost of Service

The next step of the cost-of-service analysis is to calculate unit costs for Flow, BOD, TSS, and Customer for the test year. Unit costs of service are developed by dividing the total annual costs allocated to each parameter by the total annual units for each parameter.

The return to sewer factors, number of students and school days per year, wastewater flow per square foot, and strength concentrations from the mass balance are applied to test year information to develop the units of service for FYE 2027. The test year units of service are shown in Table 4-8.

Table 4-8: Units of Service, Test Year

Customer Class	Water Use (hcf)	Return to Sewer Factor	WW Flow (hcf)	BOD (lb/yr)	TSS (lb/yr)	Bills (parcels)
Residential						
Single-Family Residential	1,535,147	63%	967,143	2,325,723	2,696,597	14,025
Mobile Homes / Recreational Vehicles	56,827	95%	53,986	129,821	150,524	28
Multi-family Residential	56,721	89%	50,482	121,396	140,755	42
Accessory Dwelling Unit	2,606	100%	2,606	6,266	7,265	0
Non-Residential (Metered + Unmetered)						
Commercial: Low Strength	69,991	90%	62,992	79,829	75,503	100
Commercial: Medium Strength	12,728	90%	11,455	30,535	22,740	43
Commercial: High Strength	27,283	90%	24,555	154,671	88,449	33
School	15,183	100%	15,183	21,825	23,602	9
Total	1,776,487		1,188,401	2,870,066	3,205,435	14,280

These units of service are then used in Table 4-9 to determine the unit costs (Line 4) for each of the wastewater parameters. Line 1 is the adjusted cost of service from Table 4-5. Each parameter is divided by the respective units in Line 2 (from Table 4-8) to derive the unit cost in Line 4.

Table 4-9: Development of Unit Costs, Test Year

No.	Revenue Requirement	WW Flow	BOD	TSS	Customer
1	Total - Adjusted Cost of Service	$9,630,718	$2,305,474	$2,353,451	$1,998,596
2	Units of Service	1,188,401	2,870,066	3,205,435	14,280
3	Units	hcf/yr	lb/yr	lb/yr	bills/yr
4	Unit Cost	$8.10	$0.80	$0.73	$139.96
5		per hcf	per lb	per lb	per bill

4.6. Cost Allocation to Customer Classes

Table 4-10 shows the allocation of the rate revenue requirement by cost causation component to each customer class based on unit costs and units of service. The Test Year wastewater (WW) flow, pounds of BOD, pounds of TSS, and number of parcels or bills (Customer) are multiplied by the unit costs shown in Table 4-9 for the respective cost categories. Since accessory dwelling units are on single-family parcels, they do not get charged a billing component. The Cost-of-Service Revenue column is the sum of the WW Flow, BOD, TSS, and Customer columns. This projected revenue is compared to the projected revenue under existing rates. The overall increase in rate-based revenue matches the overall revenue adjustment shown for the first year in Table 3-8.

Table 4-10: Wastewater Cost Allocation to Customer Classes, Test Year

Customer Class	Test Year WW Flow hcf	Test Year BOD, lbs	Test Year TSS, lbs	Parcels (Bills)	WW Flow	BOD	TSS	Customer	Cost-of-Service Revenue	Test Year Revenue Existing Rates	Difference
Residential											
Single-Family Residential	967,143	2,325,723	2,696,597	14,025	$7,837,655	$1,868,213	$1,979,859	$1,962,907	$13,648,635	$13,369,263	2%
Mobile Homes / Recreational Vehicles	53,986	129,821	150,524	28	$437,497	$104,283	$110,515	$3,919	$656,214	$491,819	33%
Multi-family Residential	50,482	121,396	140,755	42	$409,103	$97,515	$103,343	$5,878	$615,839	$435,545	41%
Accessory Dwelling Unit	2,606	6,266	7,265	0	$21,115	$5,033	$5,334	$0	$31,482	$95,452	-67%
Non-Residential: Metered											
Commercial: Low Strength	56,007	70,977	67,131	70	$453,877	$57,015	$49,288	$9,797	$569,976	$732,292	-22%
Commercial: Medium Strength	10,320	27,511	20,488	34	$83,635	$22,099	$15,042	$4,759	$125,535	$96,850	30%
Commercial: High Strength	21,947	138,241	79,053	27	$177,853	$111,046	$58,041	$3,779	$350,719	$241,350	45%
Non-Residential: Non-Metered											
Commercial: Low Strength	6,985	8,852	8,372	30	$56,606	$7,111	$6,147	$4,199	$74,062	$35,399	109%
Commercial: Medium Strength	1,135	3,024	2,252	9	$9,195	$2,430	$1,654	$1,260	$14,538	$16,844	-14%
Commercial: High Strength	2,608	16,430	9,396	6	$21,138	$13,198	$6,898	$840	$42,074	$21,130	99%
Schools	15,183	21,825	23,602	9	$123,045	$17,531	$17,329	$1,260	$159,165	$50,888	213%
Total	**1,188,401**	**2,870,066**	**3,205,435**	**14,280**	**9,630,718**	**2,305,474**	**2,353,451**	**1,998,596**	**16,288,240**	**15,586,832**	**4.5%**

4.7. Minimum Charge Derivation

The costs captured within the Customer component above do not capture all the fixed costs associated with a wastewater system. Most of the collectors in the streets are sized for maintenance, and system sizing represents a fixed cost for having capacity available whether a parcel contributes flows or not. To ensure fairness in rates with costs incurred, a minimum charge has been developed based on the customer costs (Table 4-9) plus the collection-related operating expenses (Table 4-3) and a proportionate share of general operating expenses (Table 4-3) based on the ratio of collection expenses to total expenses excluding general, as shown in Table 4-11.

Table 4-11: Minimum Charge Derivation, Test Year

Line Item	Cost	Parcels	$/parcel
Collection O&M	$3,286,449		
General O&M Reallocated to Collection	$1,555,785		
Customer Costs	$1,998,596		
Total	$6,840,829	14,280	$479.05

5. Wastewater Rate Derivation

5.1. Proposed Non-Residential Rate Structure Update

Given the limited number of commercial parcels (approximately 180) the proposed structure for commercial parcels is a fixed plus variable charge. The fixed portion recovers the most basic fixed costs and the variable component is based on estimated wastewater generation and strength. The proposed rate structure for the nine schools in ISD's service territory is a $/student charge based on average daily attendance (ADA) to better reflect the demands placed on the system by the schools. All non-residential parcels would be subject to a minimum charge.

5.2. Proposed Rates

Table 5-1 shows the derivation of the residential customer-class charges. The components of the charge are derived by multiplying the unit rate in Table 4-9 by the associated units from Table 4-8. These components are summed to calculate the test year cost of service for each customer class. The total is divided by the number of dwelling units or mobile home / recreational vehicle spaces to develop the proposed rate[7]. Proposed rates are rounded up to the nearest penny for revenue sufficiency.

Table 5-1: Residential Wastewater Rate Derivation, Test Year

Customer Class	Customer, $	Flow, $	Strength, $	Total, $	Dwelling Units or Spaces	Proposed Rate
Single-Family Residential	$1,962,907	$7,837,655	$3,848,073	$13,648,635	14,105	**$967.65**
Mobile Homes / Recreational Vehicles	$3,919	$437,497	$214,799	$656,214	1,043	**$628.99**
Multi-family Residential	$5,878	$409,103	$200,858	$615,839	1,231	**$500.28**
Accessory Dwelling Unit	$0	$21,115	$10,367	$31,482	76	**$414.25**

The proposed rates for commercial customers comprise a fixed charge equal to the customer component shown in Table 4-9, rounded up to the nearest penny ($139.97/parcel), plus a variable component. Table 5-2 shows the derivation of the variable component for metered and non-metered commercial customers. As with the residential customers, the flow and strength components are derived from the unit rates in Table 4-9 and the associated units from Table 4-8. The components are summed and then divided by the applicable units (hcf for metered customers and square feet (sqft) for non-metered customers) to determine the variable component of the commercial rates, rounded up to the nearest penny for revenue sufficiency.

[7] The number of dwelling units or spaces is based on ISD's FYE 2026 Sewer Service tax roll, as adjusted based on growth for the test year.

Table 5-2: Commercial Wastewater Variable Component Rate Derivation, Test Year

Customer Class	Flow, $	BOD $	TSS $	Total $	Units	Proposed Rate, Variable
Commercial: Metered					Water (hcf)	**$/hcf**
Commercial: Low Strength	$453,877	$57,015	$49,288	$560,179	62,230	**$9.01**
Commercial: Medium Strength	$83,635	$22,099	$15,042	$120,776	11,467	**$10.54**
Commercial: High Strength	$177,853	$111,046	$58,041	$346,941	24,385	**$14.23**
Commercial: Non-Metered					sqft	**$/sqft**
Commercial: Low Strength	$56,606	$7,111	$6,147	$69,863	332,090	**$0.22**
Commercial: Medium Strength	$9,195	$2,430	$1,654	$13,278	32,966	**$0.41**
Commercial: High Strength	$21,138	$13,198	$6,898	$41,234	22,700	**$1.82**

If the sum of the fixed and variable components for any commercial customer each year is less than the minimum charge, the customer will be billed the minimum charge.

The proposed test year school rate derivation is shown in Table 5-3. The unit rates from Table 4-9 are applied to the total school units from Table 4-8 to derive each component. The components are summed and then divided by the total number of students to determine the proposed test year unit rate for schools. The proposed rate is rounded up to the nearest penny.

Table 5-3: School Wastewater Rate Derivation, Test Year

Customer Class	Customer, $	Flow, $	Strength, $	Total $	Students	Proposed Rate, $/student
Schools	$1,260	$123,045	$34,860	$159,165	7,653	**$20.80**

While the reclassification of non-residential customers has resulted in the elimination of an industrial customer class, any future industrial customers would be charged based on the units rates shown in Table 4-9 subject to the minimum charge, as adjusted each year based on the overall revenue adjustments in Table 3-8.

Table 5-4 shows the cost-of-service wastewater rates for the next five years. Rates are set by the overall revenue adjustment and cost-of-service adjustments for FYE 2027 and then by the revenue adjustments (starting in FYE 2028) on July 1 of each fiscal year through the rate-setting period.

Table 5-4: Cost-of-Service Wastewater Rates

Customer Class	Current	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
Effective Date		7/1/2026	7/1/2027	7/1/2028	7/1/2029	7/1/2030
Residential: Fixed Annual Charge ($/yr), per dwelling unit or space on parcel						
Single-Family Residential	$934.18	$967.65	$1,028.13	$1,092.39	$1,160.67	$1,221.61
Mobile Homes / Recreational Vehicles	$529.00	$628.99	$668.31	$710.08	$754.46	$794.07
Multi-family Residential	$350.88	$500.28	$531.55	$564.78	$600.08	$631.59
Accessory Dwelling Unit	$350.88	$414.25	$440.15	$467.66	$496.89	$522.98
Commercial: Metered						
Fixed Customer Component ($/parcel/yr)		$139.96	$148.71	$158.01	$167.89	$176.71
Variable Component (Water Use, $/hcf/yr)						
Commercial: Low Strength	varies	$9.01	$9.58	$10.18	$10.82	$11.39
Commercial: Medium Strength	varies	$10.54	$11.20	$11.90	$12.65	$13.32
Commercial: High Strength	varies	$14.23	$15.12	$16.07	$17.08	$17.98
Commercial: Non-Metered						
Fixed Customer Component ($/parcel/yr)		$139.96	$148.71	$158.01	$167.89	$176.71
Variable Component ($/building sqft/yr)						
Commercial: Low Strength	varies	$0.22	$0.24	$0.26	$0.28	$0.30
Commercial: Medium Strength	varies	$0.41	$0.44	$0.47	$0.50	$0.53
Commercial: High Strength	varies	$1.82	$1.94	$2.07	$2.20	$2.32
Permitted Industrial (future customers)						
Fixed Customer Component, ($/parcel/yr)		$139.96	$148.71	$158.01	$167.89	$176.71
Measured Wastewater Flow ($/hcf/yr)		$8.11	$8.62	$9.16	$9.74	$10.26
BOD ($/lb/yr)		$0.81	$0.87	$0.93	$0.99	$1.05
TSS ($/lb/yr)		$0.74	$0.79	$0.84	$0.90	$0.95
Schools ($/student/yr)	varies	$20.80	$22.10	$23.49	$24.96	$26.28
Miscellaneous*						
Non-Residential Minimum Charge ($/parcel/yr)		$479.05	$509.00	$540.82	$574.63	$604.80

* All non-residential customers are subject to a minimum charge.

Due to the shift in costs from the updated cost-of-service analysis, ISD has directed that the rates for multi-family residential, commercial high, and schools be phased-in over two years. This means that the first year rates will be lower than shown per the cost-of-service analysis. Non-rate revenue from sources such as taxes and leases will be used to offset the decreased revenue in the first year. By the second year (FYE 2028) rates for all customers will be fully aligned with the cost-of-service analysis and overall revenue adjustments from the financial plan. The proposed rates are shown in Table 5-5.

Table 5-5: Proposed Wastewater Rates

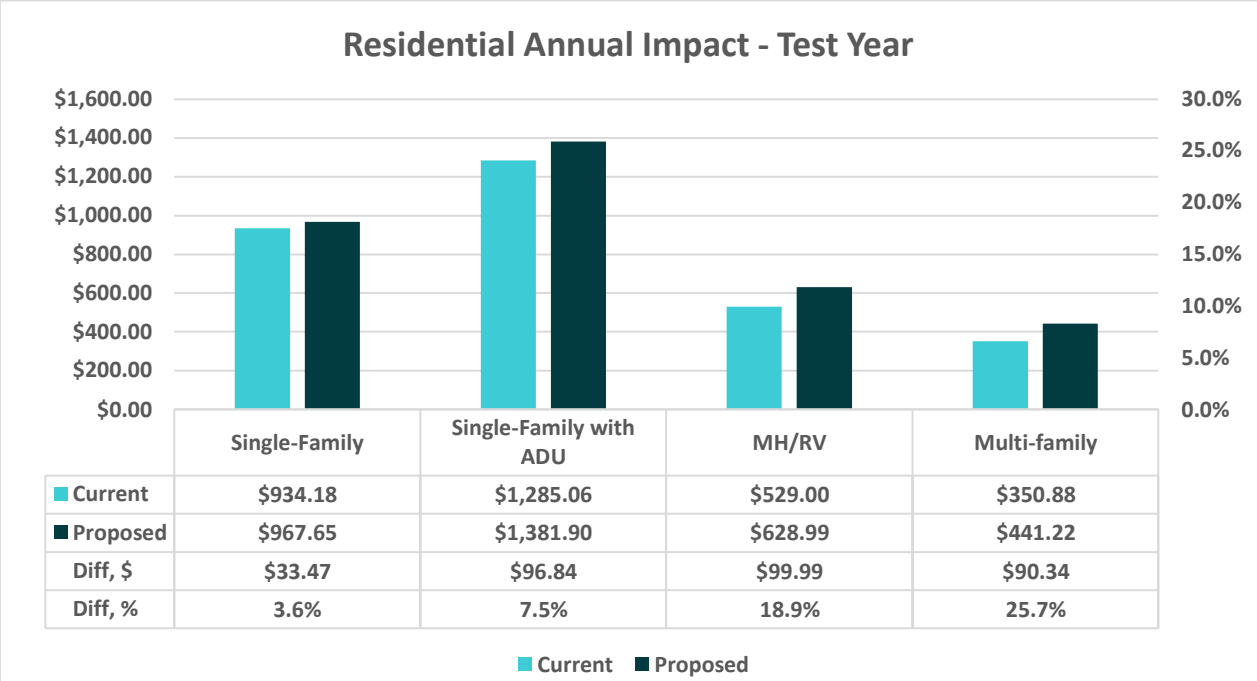
Customer Class	Current	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
Effective Date		7/1/2026	7/1/2027	7/1/2028	7/1/2029	7/1/2030
Residential: Fixed Annual Charge ($/yr), per dwelling unit or space on parcel						
Single-Family Residential	$934.18	$967.65	$1,028.13	$1,092.39	$1,160.67	$1,221.61
Mobile Homes / Recreational Vehicles	$529.00	$628.99	$668.31	$710.08	$754.46	$794.07
Multi-family Residential	$350.88	**$441.22**	$531.55	$564.78	$600.08	$631.59
Accessory Dwelling Unit	$350.88	$414.25	$440.15	$467.66	$496.89	$522.98
Commercial: Metered						
Fixed Customer Component ($/parcel/yr)		$139.96	$148.71	$158.01	$167.89	$176.71
Variable Component (Water Use, $/hcf/yr)						
Commercial: Low Strength	varies	$9.01	$9.58	$10.18	$10.82	$11.39
Commercial: Medium Strength	varies	$10.54	$11.20	$11.90	$12.65	$13.32
Commercial: High Strength	varies	**$11.34**	$15.12	$16.07	$17.08	$17.98
Commercial: Non-Metered						
Fixed Customer Component ($/parcel/yr)		$139.96	$148.71	$158.01	$167.89	$176.71
Variable Component ($/building sqft/yr)						
Commercial: Low Strength	varies	$0.22	$0.24	$0.26	$0.28	$0.30
Commercial: Medium Strength	varies	$0.41	$0.44	$0.47	$0.50	$0.53
Commercial: High Strength	varies	**$1.46**	$1.56	$1.66	$1.77	$1.87
Permitted Industrial (future customers)						
Fixed Customer Component, ($/parcel/yr)		$139.96	$148.71	$158.01	$167.89	$176.71
Measured Wastewater Flow ($/hcf/yr)		$8.11	$8.62	$9.16	$9.74	$10.26
BOD ($/lb/yr)		$0.81	$0.87	$0.93	$0.99	$1.05
TSS ($/lb/yr)		$0.74	$0.79	$0.84	$0.90	$0.95
Schools ($/student/yr)	varies	**$14.37**	$22.10	$23.49	$24.96	$26.28
Miscellaneous*						
Non-Residential Minimum Charge ($/parcel/yr)		$479.05	$509.00	$540.82	$574.63	$604.80

* All non-residential customers are subject to a minimum charge.

5.3. Wastewater Bill Impacts

Figure 5-1 shows the annual bill impact of the proposed rates on the different residential customer classes. Figure 5-2 shows the annual bill impact for the median, metered commercial customer. The median represents the point at which there are the same number of bills above and below that bill amount. Figure 5-3 shows the annual bill impact for the median, non-metered commercial customer.

Figure 5-1: Residential Wastewater Monthly Rate Impacts, Test Year



	Single-Family	Single-Family with ADU	MH/RV	Multi-family
Current	$934.18	$1,285.06	$529.00	$350.88
Proposed	$967.65	$1,381.90	$628.99	$441.22
Diff, $	$33.47	$96.84	$99.99	$90.34
Diff, %	3.6%	7.5%	18.9%	25.7%

Figure 5-2: Median Bill Impact, by Commercial Strength Class (Metered)

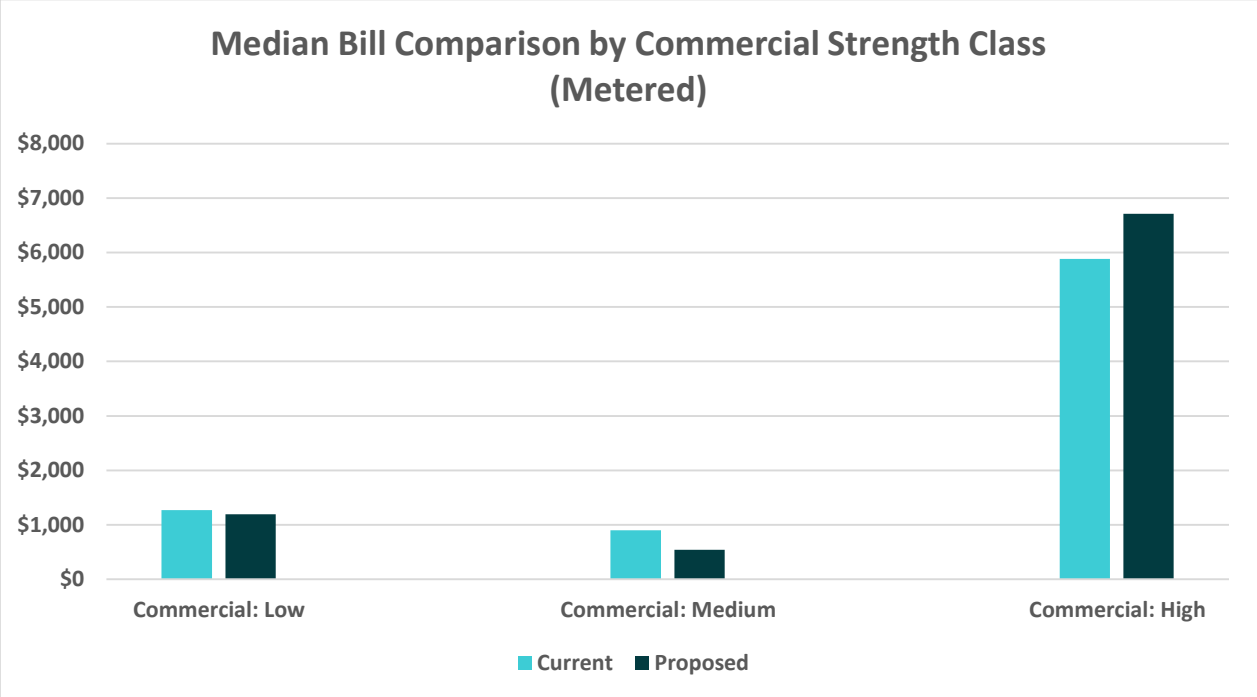
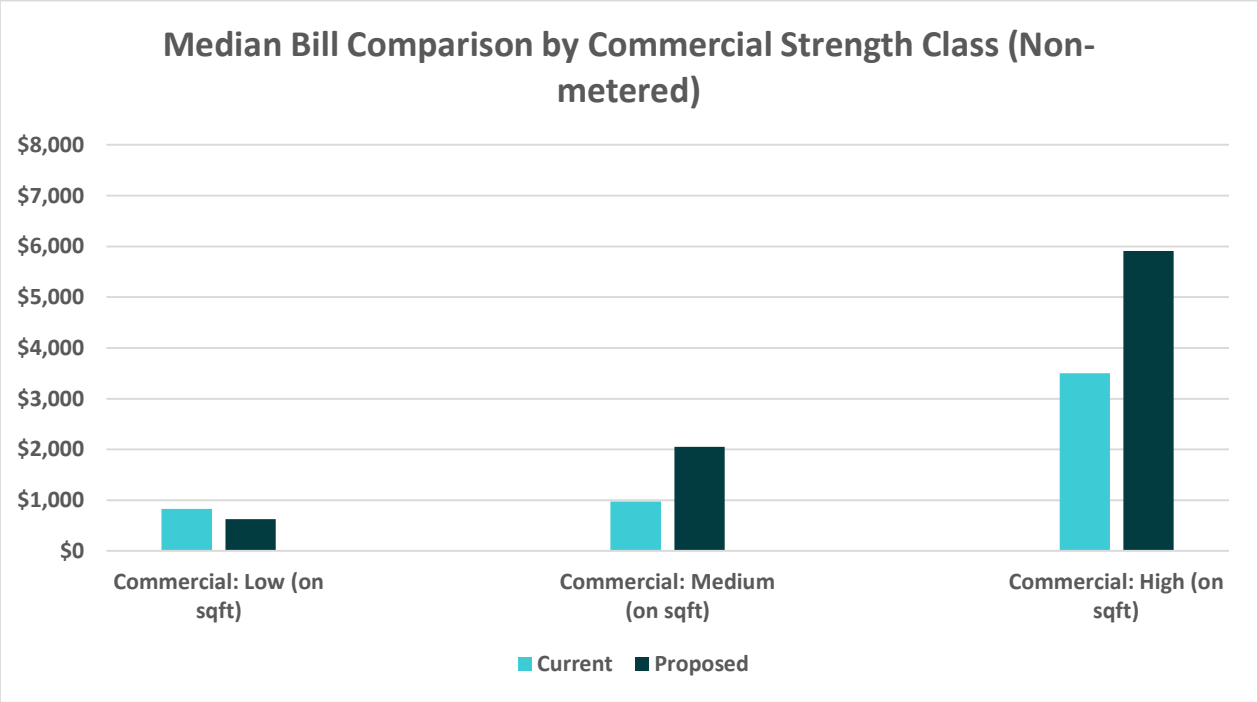


Figure 5-3: Median Bill Impact, by Commercial Strength Class (Non-metered)



APPENDIX A:

Wastewater Capital Improvement Plan

Capital Improvement Plan - Uninflated	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
Collection System Program						
Stationary Generator for Admin/Shop	$50,000	$200,000	$650,000	$0	$0	$0
Force Main Inspection	$0	$0	$0	$0	$0	$25,000
14-inch Parallel FM	$350,000	$3,500,000	$6,000,000	$4,000,000	$0	$0
Manhole Rehab/Linear Asset Spot Repairs	$75,000	$60,000	$60,000	$60,000	$60,000	$60,000
Collection System Renovation Program- Phase 1	$400,000	$600,000	$600,000	$600,000	$600,000	$0
Collection System Renovation Program- Phase 2	$0	$0	$0	$0	$0	$750,000
Electrical Control Planels	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000
SCADA	$0	$200,000	$0	$0	$0	$0
MCC/PLC/Radio Upgrades	$25,000	$1,650,000	$5,000	$5,000	$5,000	$5,000
Fleet Truck Replacement	$120,000	$0	$60,000	$0	$60,000	$0
Equipment and Spare parts	$50,000	$0	$0	$0	$0	$0
Boom Truck	$0	$0	$0	$0	$0	$225,000
Vacuum Truck	$0	$0	$850,000	$0	$0	$0
Easment Rodder	$85,000	$0	$0	$0	$0	$0
Dump Truck	$140,000	$0	$0	$0	$0	$0
CS Bldg Maintenance Garage Expansion	$50,000	$150,000	$250,000	$0	$0	$0
BH - Bridgehead	$0	$0	$0	$0	$35,000	$0
BIP - Bethel Island Ponds	$30,000	$0	$0	$0	$0	$0
CG - Cypress Grove	$0	$0	$0	$0	$10,000	$0
D1 - Dutch Slough	$0	$10,000	$0	$0	$0	$0
ER1 - Emerson Ranch	$60,000	$0	$0	$6,000	$0	$0
G1 - Gateway 1	$60,000	$0	$0	$6,000	$0	$0
G2 - Gateway 2	$50,000	$0	$0	$0	$0	$0
G3 - Gateway 3	$5,000	$0	$0	$12,000	$0	$0
GR1 - Gilbert Ranch	$0	$0	$15,000	$0	$0	$0
ISD - District Office	$0	$0	$7,000	$0	$0	$0
IW - Ironwood	$12,000	$0	$0	$10,000	$0	$0
L1 - Lauritzen	$0	$0	$15,000	$0	$10,000	$0
LH - Laurel Heights	$30,000	$0	$0	$0	$0	$0
MC - Marsh Creek	$0	$0	$0	$0	$0	$25,000
MPS - Main Pump	$70,000	$0	$70,000	$40,000	$0	$0
P1 - Piper 1	$0	$6,000	$0	$15,000	$0	$0
QV - Quail Valley	$0	$0	$15,000	$0	$0	$0
S1 - Stone 1	$0	$12,000	$0	$16,000	$0	$0
S2 - Stone 2	$30,000	$0	$0	$0	$0	$0
SL1 - Summer Lakes 1	$0	$500,000	$0	$0	$0	$0
SM1 - Sandmound 1	$0	$0	$0	$0	$10,000	$7,000
T1 - Taylor 1	$20,000	$0	$0	$0	$6,000	$0
T2 - Taylor 2	$30,000	$0	$0	$0	$0	$0
T3 - Taylor 3	$0	$10,000	$0	$0	$0	$0
VP- Vintage Parkway	$0	$0	$0	$0	$0	$50,000
W1 - Willow 1	$0	$0	$0	$12,000	$0	$0
W2 - Willow 2	$0	$15,000	$0	$0	$0	$0
W3 - Willow 3	$20,000	$0	$14,000	$0	$0	$0
WEB - Web	$0	$60,000	$20,000	$60,000	$0	$0
WPM - Willow Park Marina	$0	$50,000	$0	$0	$0	$0
Portable Generator Replacement	$0	$0	$75,000	$0	$0	$0
Portable Pumps Replacement	$0	$75,000	$0	$0	$0	$75,000
Live Oak Avenue Industrial Park Reimbursement Agreement	$130,466	$0	$0	$0	$0	$0
City of Oakley Reimbursement Agreement	$2,376,812	$820,000	$0	$0	$0	$0
Other Reimbursement Agreements	$362,319	$200,000	$175,000	$0	$0	$0

Capital Improvement Plan - Uninflated	FYE 2026	FYE 2027	FYE 2028	FYE 2029	FYE 2030	FYE 2031
WRF Program						
Influent Pump Stations Piping Upgrade	$0	$0	$250,000	$0	$0	$0
Influent Screening - Add 3rd Perf Plate Screen	$0	$0	$1,250,000	$0	$0	$0
Grit Removal Improvements	$0	$65,000	$0	$0	$0	$0
Grit Classifier Replacement	$0	$400,000	$0	$0	$0	$0
Drum Screen 1, 2 &3 Rehab	$250,000	$500,000	$0	$0	$0	$0
Install Drum Screen 4 + Wash Press	$0	$1,200,000	$0	$0	$0	$0
Aeration Basin Crack Repair	$100,000	$0	$0	$0	$0	$0
Paint Piping/Equipment	$0	$25,000	$25,000	$25,000	$25,000	$25,000
MBR Improvement - Permeate Piping / Valves	$0	$50,000	$50,000	$100,000	$100,000	$50,000
Replace Membranes (labor)	$0	$200,000	$0	$200,000	$0	$0
UV Wiper/Ram Replacement	$130,000	$0	$0	$0	$0	$0
UV Effluent Gate Installation	$0	$0	$0	$275,000	$0	$0
Effluent Pipe Line Rehabilitation	$250,000	$0	$0	$50,000	$150,000	$0
Scheduled Equipment Rehab/Replacement	$350,000	$450,000	$450,000	$450,000	$650,000	$800,000
Electrical Improvements	$100,000	$175,000	$175,000	$175,000	$175,000	$50,000
SCADA	$50,000	$500,000	$1,000,000	$0	$0	$0
PLC Upgrades	$50,000	$1,500,000	$1,500,000	$0	$0	$0
Biosolids Improvement (Facility)	$0	$100,000	$100,000	$2,800,000	$4,000,000	$0
Operations & Maintenance Facility	$0	$100,000	$1,010,000	$50,000	$0	$0
Odor Control Rehab Solids Building	$0	$50,000	$350,000	$350,000	$0	$0
WRF EV Charging Stations	$0	$0	$0	$35,000	$0	$0
Storm Pond Return line	$0	$0	$0	$0	$700,000	$0
Seal Coating Roadways	$0	$0	$300,000	$0	$0	$0
Effluent Pipe Line Inspections (External & Cathodic)	$0	$0	$30,000	$0	$0	$30,000
Screening Wash Water Pumps (headworks)	$0	$100,000	$0	$0	$0	$0
Bird Mitigation	$50,000	$0	$0	$0	$0	$0
Utility Water Pipe Rehabilition	$0	$0	$0	$0	$750,000	$0
GW Well Fence Access & Protection Improvements	$50,000	$0	$0	$0	$0	$0
Expand Aerobic Digester (use anaerobic)	$0	$0	$0	$0	$0	$0
Pond Road Improvements	$0	$0	$150,000	$0	$0	$0
Spare Influent Pump and Solids Conveyor	$50,000	$0	$0	$0	$0	$0
Pond Maintenance/Improvements	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000
LED Lighting Upgrades	$0	$50,000	$0	$0	$50,000	$0
General Improvement Program						
Admin. Bldg EV Charging Stations	$0	$15,000	$0	$0	$0	$0
Admin Bldg Improvements	$50,000	$100,000	$10,000	$10,000	$10,000	$10,000
Furniture	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
IT Equipment	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
Audio/Video Board Room Improvements	$0	$40,000	$0	$0	$0	$0
Road Maintenance	$0	$0	$0	$25,000	$0	$0
LED Sign	$20,000	$0	$0	$0	$0	$0
Security Improvements	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500
Fleet and Vehicle Replacement	$120,000	$60,000	$120,000	$0	$50,000	$0
Sidewalks and Lighting	$0	$35,000	$0	$0	$0	$0
Repaint the Admin Building	$3,500	$30,000	$0	$0	$0	$0
Recycled Water Program						
Residential Fill Station Paving	$0	$3,000	$0	$0	$3,000	$0
Residential Fill Stations Rehab.	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000
REW Pumping and Distribution System	$0	$150,000	$5,000	$5,000	$5,000	$5,000
Demonstration Gardens	$0	$250,000	$0	$0	$0	$0
Estimated Contingency						
Contingency	$350,000	$350,000	$350,000	$350,000	$350,000	$350,000
Total Project Costs - Uninflated	**$6,644,622**	**$14,655,527**	**$16,045,528**	**$9,781,529**	**$7,853,530**	**$2,581,531**
Total Project Costs - Inflated	**$6,642,596**	**$15,093,105**	**$17,020,549**	**$10,686,324**	**$8,836,932**	**$2,990,347**