# City of Malibu

## Wastewater and Recycled Water Rate Update Study

Report / May 14, 2021

RAFTELIS

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May 14, 2021

Mr. Robert DuBoux
Public Works Director / City Engineer
City of Malibu
23825 Stuart Ranch Road
Malibu, CA 90265

**Subject: Wastewater and Recycled Water Rate Update Study**

Dear Mr. DuBoux,

Raftelis is pleased to provide this Wastewater and Recycled Water Rate Update Study Report (Report) for the City of Malibu (City). The Study calculates wastewater and recycled water rates compliant with governing regulations, including Proposition 218, for Fiscal Year (FY) 2022 through FY 2024 (Study Period).

The primary objectives of the Study include the following:

- Update and project the annual budget for the Civic Center Wastewater Treatment Facility (CCWTF).
- Calculate updated wastewater and recycled water rates that are fair and equitable across Phase 1 Assessment District customers while generating enough revenue to maintain the system.

The Report summarizes the key findings and recommendations related to the update of the budget and the resulting proposed wastewater and recycled water rates.

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

Sincerely,

**Sanjay Gaur**
*Vice President*

**Jonathan Jordan**
*Associate Consultant*

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# 1. Executive Summary

## 1.1. Introduction

The City of Malibu (City) provides wastewater and recycled water service to customers located within the Phase 1 area of the Civic Center Water Treatment Facility (CCWTF) project. This phase encompasses the construction of the treatment plant and the collection and distribution systems to nearby parcels. Phase 1 consists of in the central core of the City's Civic Center. Approximately two-thirds of the parcels are developed and consist primarily of commercial properties. Raftelis conducted a Wastewater and Recycled Water rate study in the Summer of 2017, included in Appendix C, which resulted in the proposed and approved rates for Fiscal Year (FY) 2017 through FY 2020. Proposed rates were to remain static with no rate increase for these three years. After FY 2020, the City wished to reevaluate the CCWTF operating budget and resultant rates after monitoring costs and revenues.

In early 2020, the City engaged Raftelis to conduct a study to reassess the wastewater and recycled water services' revenue requirements and to update rates. Unforeseen circumstances during the course of the Study update brought upon by the COVID-19 pandemic, such as the closure of non-essential businesses, a state-wide stay-at-home order, and the inability to hold a public forum, compelled City staff and Raftelis to reassess the immediate needs and impacts a rate update would have on the community. On May 11, 2020, City staff and Raftelis brought the City Council several options to move forward with the wastewater and recycled water rate update, general fund loan repayment, and budget update. The City Council elected to forgo a rate increase for Fiscal Year (FY) 2021 and approved rate increases beginning in FY 2022, allowing ratepayers to recover from the impacts of the COVID-19 pandemic. The Council also directed staff to fund the CCWTF revenue deficit created by postponing the rate increase in FY 2021 with a loan from the General Fund. On November, 9 2020, the City Council approved the interfund loan agreement and outlined the repayment terms.

Rates calculated for FY 2022 through FY 2024 (Study Period) will provide the revenue required to fund the utility and will begin repayment of the interfund loans to the City's General Fund. Key information used in the Study include an updated operating budget, previous and anticipated General Fund loan amounts, and customer base. Raftelis developed rates consistent with the methodology used in the formation of the Phase 1 Assessment District (District) and detailed associated Engineer's Report. Employing the same methodology helps to ensure fair and equitable distribution of ongoing operations and maintenance (O&M) costs consistent with the evaluation of construction costs in the Engineer's Report.

This Report summarizes the results of the update to the operating budget for the City's CCWTF and provides projections through FY 2024. Consequently, this Report summarizes the increase in the wastewater and recycled water rates for the City's customers within Phase 1. Parcels affected by the updated rates are listed in Appendix A. Parcels which are not yet utilizing the wastewater treatment system are listed in Appendix B. Initial budget development, determination of equivalent dwelling units (EDUs), and wastewater and recycled water rate methodologies are discussed in the 2017 Study, located in Appendix C.

## 1.2. Objectives of the Study

The major objectives of the Study include the following:

- Update and project the annual budget for the Civic Center Wastewater Treatment Facility (CCWTF)
- Calculate updated wastewater and recycled water rates that are fair and equitable across Phase 1 Assessment District customers while generating enough revenue to maintain the system

## 1.3. Proposed Financial Plan

Table 1-1 displays the proposed financial plan that covers the O&M expenses and repays the General Fund starting in FY 2022. Raftelis developed a proposed financial plan using the City's FY 2021 and FY 2022 operating budgets for the CCWTF, loan amounts from the General Fund, and assumptions associated with cost escalations. The proposed financial plan enables the City to set rates that generate sufficient revenues to meet the City's short-term and long-term obligations. This study anticipates that a third General Fund loan will be issued in FY 2021 to cover the deficit caused by foregoing a rate update in FY 2021. Updated rates are proposed to be implemented in FY 2022, FY 2023, and FY 2024. The revenue generated by the updated rates will meet the City's O&M expenses and repay the loans from the General Fund. The proposed financial plan places the City in a better position for Phase 2 of the CCWTF project, anticipated to be active and on the wastewater system in FY 2024.

**Table 1-1: Proposed Financial Plan**

| Line No. | | FY 2021 | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|---|
| 1 | **Revenue from Rates** | **$1,610,964** | **$2,210,622** | **$2,260,399** | **$2,311,436** |
| 2 | O&M Expenses | $1,962,325 | $1,967,500 | $2,017,278 | $2,068,315 |
| 3 | General Fund Repayment | $0 | $243,122 | $243,122 | $243,122 |
| 4 | **Total Expenses** | **$1,962,325** | **$2,210,622** | **$2,260,399** | **$2,311,436** |
| 5 | **Net Cashflow (Line 1 - Line 4)** | ($351,361) | $0 | $0 | $0 |
| 6 | General Fund Contribution Amount | $351,361 | $0 | $0 | $0 |

*All numbers are rounded for display.

## 1.4. Proposed Rates

Table 1-2 shows the proposed wastewater rates. The total monthly charge for each parcel is determined by multiplying the wastewater rate by the total EDUs assigned to that parcel. Each developed parcel's monthly service charge is included in Appendix A.

**Table 1-2: Proposed Wastewater Rates**

| Description | Current | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|
| **Wastewater Rate ($/EDU)** | $400.34 | $546.26 | $558.56 | $571.17 |

Table 1-3 lists the proposed recycled water rates for FY 2022 to FY 2024.

**Table 1-3: Proposed Recycled Water Rates**

| | Tier | Current | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|---|
| **Inside Rate** | | | | | |
| | Tier 1 | $0.00 | $0.00 | $0.00 | $0.00 |
| | Tier 2 | $2.04 | $2.24 | $2.30 | $2.36 |
| **Outside Rate** | Uniform | $5.70 | $5.81 | $5.87 | $5.93 |

Approximately 40 percent of Phase 1's parcels remain undeveloped. As these parcels are developed, they will also pay the rates presented in Table 1-2 and Table 1-3. The EDUs for undeveloped parcels are determined based on the same methodology presented in this Study for developed parcels. Undeveloped or Vacent parcels are listed in Appendix B.

# 2. Introduction

## 2.1. Study Background

The City of Malibu (City) provides wastewater and recycled water service to customers located within the Phase 1 area of the Civic Center Water Treatment Facility (CCWTF) project. This phase encompasses the construction of the treatment plant and the collection and distribution systems to nearby parcels. Phase 1 consists of parcels in the central core of the City's Civic Center. Approximately two-thirds of the parcels are developed and consist primarily of commercial properties. Raftelis conducted a Wastewater and Recycled Water rate study in the Summer of 2017, included in Appendix C, which resulted in the proposed and approved rates for Fiscal Year (FY) 2017 through FY 2020. Proposed rates were to remain static with no rate increase for these three years. After FY 2020, the City wished to reevaluate the CCWTF operating budget and resultant rates after monitoring costs and revenues.

In early 2020, the City engaged Raftelis to conduct a study to reassess the wastewater and recycled water services' revenue requirements and to update rates. Unforeseen circumstances during the course of the Study update brought upon by the COVID-19 pandemic, such as the closure of non-essential businesses, a state-wide stay-at-home order, and the inability to hold a public forum, compelled City staff and Raftelis to reassess the immediate needs and impacts a rate update would have on the community. On May 11, 2020, City staff and Raftelis brought the City Council several options to move forward with the wastewater and recycled water rate update, general fund loan repayment, and budget update. The City Council elected to forgo a rate increase for Fiscal Year (FY) 2021 and approved rate increases beginning in FY 2022, allowing ratepayers to recover from the impacts of the COVID-19 pandemic. The Council also directed staff to fund the CCWTF revenue deficit created by postponing the rate increase in FY 2021 with a loan from the General Fund. On November 9, 2020, the City Council approved the interfund loan agreement and outlined the repayment terms.

Rates calculated for FY 2022 through FY 2024 (Study Period) will provide the revenue required to fund the utility and will begin repayment of the interfund loans to the City's General Fund. Key information used in the Study include an updated operating budget, previous and anticipated General Fund loan amounts, and customer base. Raftelis developed rates consistent with the methodology used in the formation of the Phase 1 Assessment District (District) and detailed associated Engineer's Report. Employing the same methodology helps to ensure fair and equitable distribution of ongoing operations and maintenance (O&M) costs consistent with the evaluation of construction costs in the Engineer's Report.

This Report summarizes the results of the update to the operating budget for the City's CCWTF and provides projections to FY 2024. Consequently, this Report summarizes the increase in the wastewater and recycled water rates for the City's customers within Phase 1. Parcels affected by the updated rates are listed in Appendix A. Parcels which are not yet utilizing the wastewater treatment system are listed in Appendix B. Initial budget development, determination of equivalent dwelling units (EDUs), and wastewater and recycled water rate methodologies are discussed in the 2017 Study, located in Appendix C.

## 2.2. Study Objectives

The primary objectives of the Study include the following:

- Update and project the annual budget for the Civic Center Water Treatment Facility (CCWTF)
- Calculate updated wastewater and recycled water rates that are fair and equitable across Phase 1 Assessment District customers while generating enough revenue to maintain the system

# 3. Legal Requirements and Rate Setting Methodology

## 3.1. California Constitution - Article XIII D, Section 6 (Proposition 218)

Proposition 218, reflected in the California Constitution as Article XIII D, was enacted in 1996 to ensure that rates and fees are reasonable and proportional to the cost of providing service. The principal requirements for fairness of the fees are as follows:

1. A property-related charge (such as recycled water and wastewater rates) imposed by a public agency on a parcel shall not exceed the costs required to provide the property-related service.
2. Revenues derived by the charge shall not be used for any purpose other than that for which the charge was imposed.
3. The amount of the charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of the property.
5. A written notice of the proposed charge shall be mailed to the record owner of each parcel at least 45 days prior to the public hearing when the agency considers all written protests against the charge.

As stated in AWWA's *M1 Manual*, "water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." Prop 218 requires that water rates cannot be "arbitrary and capricious," meaning that the rate-setting methodology must be sound and that there must be a nexus between the costs and the rates charged. Raftelis follows industry-standard rate-setting methodologies set forth by the AWWA *M1 Manual* to ensure this Study meets Proposition 218 requirements and develops rates that do not exceed the proportionate cost of providing water services.

## 3.2. California Constitution - Article X, Section 2

Article X, Section 2 of the California Constitution (established in 1976) states the following:

> *It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.*

Article X, section 2 of the State Constitution institutes the need to preserve the State's water supplies and to discourage the wasteful or unreasonable use of water by encouraging conservation, including through the use of alternative sources such as recycled water. As such, public agencies are constitutionally mandated to maximize the beneficial use of water, prevent waste, and encourage conservation.

## 3.3. Cost-Based Rate Setting Methodology

As stated in the AWWA M1 Manual, "the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." There are four significant steps to develop utility

rates that comply with Proposition 218 and industry standards while meeting other emerging goals and objectives of the utility, discussed below.

**Calculate Revenue Requirement**

The rate-making process starts by determining the rate-setting year revenue requirement, which for this Study is FY 2022. The revenue requirement should sufficiently fund the utility's O&M expenses. The development of the City's O&M budget is detailed in Section 4 of this report.

**Cost of Service Analysis (COS)**

In the case of the City, the wastewater rate is based on the development of an EDU, which allows the City to proportionately distribute the system's O&M costs across the different Phase 1 parcels according to their size in comparison to this EDU. This results in the City charging customers with higher demand on the system a more significant share of the O&M expenses as these parcels generate higher costs to the City in providing wastewater service.

Briefly described in Section 6, and in greater detail in Appendix C, the recycled water rates will generate supplementary income. The City only produces recycled water from Phase 1 wastewater customers, resulting in a finite supply. In addition, each Phase 1 parcel is provided an allocation of recycled water that is the equivalent to that parcel's estimated wastewater flow, reduced by a water loss factor. Therefore, these rates are constructed based on the recovery of the equivalent capital and O&M costs of providing one hundred cubic feet (hcf) of recycled water should any parcel not use its entire allocation.

**Rate Design and Calculations**

Rates do more than simply recover costs. Within the legal framework and industry standards, properly designed rates should support and optimize a blend of various utility objectives, such as deterring recycled water waste and wastewater revenue stability, among other objectives. The latter is particularly important to the City as the utilities are providing entirely new services. Developing a stable wastewater rate will also help the City work within the confines of these new services by providing reliable and consistent revenue generation. In addition, rates may also act as a public information tool in communicating these objectives to customers.

**Rate Adoption**

Rate adoption is the last step of the rate-making process to comply with Proposition 218. Raftelis documents the rate study results in this Study Report to serve as the City's administrative record and a public education tool about the proposed rates, the rationale and justifications behind them, and their anticipated financial impacts in lay terms.

# 4. Financial Plan

This section describes general assumptions made to project CCWTF operating costs and addresses the repayment of previous and anticipated loans from the City's General Fund for the Study Period. The initial CCWTF budget was developed in 2017 (found in Appendix C) and based on the contract costs provided by the wastewater facility operator, pass-through costs, and direct costs. Pass-through costs are costs that are identified in the Operator Agreement but are billed to the City for cost recovery of these expense items. Direct costs are additional expenses the City incurs not identified in the Operator Agreement.

Initially, Raftelis estimated direct costs by reviewing agency budgets in Southern California with similar characteristics to the City. Updating the operating budget ensures the financial stability of the City's wastewater and recycled water enterprise. Raftelis utilized the operating budgets provided by the City for FY 2021 and FY 2022 as the baseline for future projections.

The Study utilized the following City provided information:

1. Adopted Budget FY 2021
2. Proposed Budget FY 2022
3. Prior General Fund loan amounts for FY 2019 and FY 2020

Revenues from current wastewater rates are insufficiently funding the operating costs of the wastewater system. The City's General Fund has loaned the wastewater and recycled water enterprise funds to cover O&M expenses for FY 2019, FY 2020, and FY 2021.

## 4.1. Current Revenue

Table 4-1 shows the current wastewater and recycled water rates developed in the 2017 Wastewater and Recycled Water Rate Study (Appendix C). The City currently charges its wastewater customers a monthly rate per EDU. The wastewater rate is intended to generate all required revenue for the system with no reliance on recycled water revenues. Recycled water rates are structured as a tiered rate for customers inside the Assessment District and as a uniform rate for any customers outside the Assessment District.

**Table 4-1: Current Monthly Wastewater and Recycled Water Rates**

| Wastewater | Rate |
|---|---|
| **$/EDU** | $400.34 |
| **Recycled Water** | **Rate** |
| **Inside Assessment District** | |
| Tier 1 (0-14 hcf) | $0.00 |
| Tier 2 (15 + hcf) | $2.04 |
| **Outside Assessment District** | $5.70 |

Table 4-2 shows current and projected EDU's for the City's wastewater system. In FY 2022, an additional 1.91 EDUs will be connected to the wastewater system for a total of 337.23 EDUs. Several parcels are in various stages of development; however, the exact timing for parcel completion is unknown. This uncertainty prevents an accurate projection of additional EDUs connecting to the system in future years. As a result, it is assumed that no additional EDUs will connect to the wastewater system during the Study Period.

**Table 4-2: Current and Projected EDUs**

| | Current | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|
| **Initial EDU's** | 335.33 | 335.33 | 337.24 | 337.24 |
| **Additional EDU's** | 0.00 | 1.91 | 0.00 | 0.00 |
| **Total EDU's** | 335.33 | 337.24 | 337.24 | 337.24 |

*All numbers are rounded for display.

Table 4-3 shows the projected revenues from current rates. Raftelis calculated annual revenues by multiplying the current wastewater rate (shown in Table 4-1), the number of EDUs (shown in Table 4-2), and twelve billing periods. The calculation for wastewater rate revenues is shown below:

$$Wastewater\ Rate\ (\frac{\$}{EDU}) \times\ Total\ Number\ of\ Developed\ EDUs\ \times\ 12\ months$$
$$= Annual\ Revenue\ from\ Wastewater\ Rates$$

**Table 4-3: Annual Revenue from Current Wastewater Rates**

| | Current | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|
| Wastewater Rates ($/EDU) | $400.34 | $400.34 | $400.34 | $400.34 |
| Number of EDU's | 335.33 | 337.24 | 337.24 | 337.24 |
| **Rate Revenue** | **$1,610,964** | **$1,620,120** | **$1,620,120** | **$1,620,120** |

*All numbers are rounded for display.

## 4.2. Operating and Maintenance Expenses

In the 2017 Study, Raftelis identified three cost categories for the wastewater and recycled water O&M expenses: Contract Costs, Pass-through Costs, and Direct Costs. Contract costs consist of services to be performed by the contracted wastewater treatment operator, such as general operations and maintenance, permits, operations monitoring, and asset management maintenance. Pass-through costs are expenses that the operator will not cover through its general management of the system, such as treatment, permit fees, equipment maintenance, and electrical costs. Direct Costs are additional expenses the City incurs with the operation of the CCTWF, such as billing & customer service, insurance, engineering, and salaries.

### 4.2.1. COMPARISON OF RAFTELIS ESTIMATED AND CITY PROPOSED BUDGETS

Table 4-4 summarizes the differences in the cost categories between the estimated budget for FY 2019 from the previous Study and the City's adopted budget for FY 2021. The total difference between the two budgets is shown in Line 4, Table 4-4. Increases in the budgeted O&M costs mostly originate from the Pass-through and Direct costs categories. Pass-through costs, which were higher than the previous Study estimates, include items such as electrical costs, treatment costs, and permit costs. The total difference in the Pass-through cost is shown in Line 2 of Table 4-4,. The increase in the Direct category includes higher costs for facility insurance and water quality monitoring. The total difference in the Direct cost is shown in Line 3 of Table 4-4.

**Table 4-4: Differences in the Previous Study and Projected Budget**

| Line No. | Category | FY 2019 (Previous Study) | FY 2021 (Adopted Budget) | Difference ($) |
|---|---|---|---|---|
| 1 | **Contract** | $1,156,066 | $1,155,000 | -$1,066 |
| 2 | **Pass-though** | $123,275 | $256,000 | $132,725 |
| 3 | **Direct** | $171,264 | $551,325 | $380,061 |
| 4 | **Total** | **$1,450,605** | **$1,962,325** | **$511,720** |

### 4.2.2. PROJECTED BUDGET

Various assumptions and inputs were incorporated into the Study based on direction from City staff. The cost escalation factors utilized in the Study are shown below in Table 4-5.

**Table 4-5: Escalation Assumptions**

| Line No. | Escalation Factors | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|
| 1 | General | 2.5% | 2.5% | 2.5% |
| 2 | Interest | 2.0% | 2.0% | 2.0% |

The General escalation factor of 2.53 percent (Table 4-5, Line 1) is based on the 20-year historical average of the Consumer Price Index (CPI) for all urban consumers in Los Angeles, Long Beach, and Anaheim. This escalation factor was used to project increases in all Contract, Pass-through, and Direct costs in FY 2023 and FY 2024. A 2.0 percent (Table 4-5, Line 2) interest rate was used to calculate interest costs for the loans from the City's General Fund. City Staff and Raftelis based the interest rate on the opportunity cost of the General Fund loans during FY 2019 and FY 2020.

Table 4-6 shows the forecasted future O&M costs to FY 2024, using the City's FY 2022 proposed budget values and inflation factors from Table 4-5.

**Table 4-6: Projected O&M Expenses**

| Line No. | Cost Category | FY 2021 Adopted | FY 2022 Proposed | FY 2023 Projected | FY 2024 Projected |
|---|---|---|---|---|---|
| 1 | Contract | $1,155,000 | $1,155,000 | $1,184,222 | $1,214,182 |
| 2 | Pass-though | $256,000 | $288,000 | $295,286 | $302,757 |
| 3 | Direct | $551,325 | $524,500 | $537,770 | $551,375 |
| 4 | **Total** | **$1,962,325** | **$1,967,500** | **$2,017,278** | **$2,068,315** |

*All numbers are rounded for display.

## 4.3. Internal Loans

Table 4-7 summarizes the City's previous and anticipated General Fund loans to the wastewater enterprise to meet the operating expenses. The loan amounts in FY 2019 and FY 2020 are based on actuals. Raftelis estimates the General Fund will need to contribute an additional $351,182, as shown in Line 3 of Table 4-7, to the wastewater system to cover operating costs. The total loan amount from the General Fund, including the 2 percent interest rate (Table 4-5), is estimated to be $701,135 (Line 4).

### Table 4-7: General Fund Loans

| Line No. | Loan Year | FY 2019 | FY 2020 | FY 2021 | FY 2022 |
|---|---|---|---|---|---|
| 1 | FY 2019 | $105,182 | $107,286 | $109,431 | $111,620 |
| 2 | FY 2020 | | $222,152 | $226,595 | $231,127 |
| 3 | FY 2021 | | | $351,361* | $358,388 |
| **4** | **Total** | **$105,182** | **$329,438** | **$687,387** | **$701,135** |

**Estimated FY 2021 General Fund Loan amount.*

The General Fund loan repayment assumptions are summarized in Table 4-8. The total amount owed to the General Fund will be $701,135, including interest, in FY 2022 (Table 4-7 and Table 4-8). The City will repay the interfund transfers to the General Fund over three years, beginning in FY 2022. The total amount to be repaid to the General Fund will be $729,365, including interest over the repayment term. The annual loan payment amount for three years will be $243,122.

### Table 4-8: Loan Repayment Assumptions

| Description | |
|---|---|
| Interest | 2% |
| Term (Years) | 3 |
| Debt Repayment Beginning | FY 2022 |
| Total Loan Amount | $701,135 |
| Total Debt Service | $729,365 |
| **Annual Payment** | **$243,122** |

The annual General Fund payments for the Study Period are shown in Table 4-9.

### Table 4-9: General Fund Annual Repayment

| Description | FY 2021 | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|
| **Annual Repayment Amount ($)** | $0 | $243,122 | $243,122 | $243,122 |

## 4.4. Status Quo Financial Plan (No Rate Increase)

Table 4-10 shows the status quo operating cash flow detail for the Study Period. The cash flow incorporates the revenues from current rates (Table 4-3), projected O&M expenses (Table 4-6). This cashflow does not incorporate the repayment of General Fund loans (Table 4-7). Under the status quo financial plan scenario, the City will continue to have negative net cashflow. Revenues generated from current rates are inadequate to sufficiently recover operating expenses and repay the loans from the General Fund throughout the Study Period, as shown by negative net cash balance (Table 4-10, Line 5). The City's wastewater enterprise is unable to maintain fiscal sustainability and solvency under the current rates.

### Table 4-10: Status Quo Financial Plan

| Line No. | Description | FY 2021 | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|---|
| 1 | **Revenues from Rates** | **$1,610,964** | **$1,620,120** | **$1,620,120** | **$1,620,120** |
| 2 | O&M Expenses | $1,962,325 | $1,967,500 | $2,017,278 | $2,068,315 |
| 3 | General Fund Loan Repayment | $0 | $0 | $0 | $0 |
| 4 | **Total Expenses** | **$1,962,325** | **$1,967,500** | **$2,017,278** | **$2,068,315** |
| 5 | Net Cashflow (Line 1 - Line 4) | ($351,361) | ($347,380) | ($397,158) | ($448,195) |
| 6 | General Fund Loan Amount | $351,361 | $347,380 | $397,158 | $448,195 |

*All numbers are rounded for display.

Rates to recover the wastewater operating expenses for the Study period are developed in the next section.

# 5. Wastewater Rates

This section describes assumptions made to update the wastewater rates. Wastewater rates are intended to generate all required revenue for the system with no reliance on recycled water revenues. The wastewater system must treat to the tertiary level whether the effluent is injected into the groundwater basin or provided to customers. Therefore, wastewater customers are responsible for all stages of the treatment process. Raftelis updated the wastewater rate based on the projected revenue requirements discussed in Section 4.

## 5.1. Equivalent Dwelling Units

Equivalent Dwelling Units, or EDUs, is a unit that creates parity across all customers. It creates a base unit to which all parcels are compared in magnitude. For example, a typical single-family home (Standard Home) is assigned a defined number of fixtures, wastewater flow quantity, and effluent strength. Other customers are defined by the equivalent number of standard homes. EDUs can be determined from Phase 1 Assessments, as shown below. An in-depth discussion and methodology of EDU determination can be found in Appendix C.

$$Phase\ 1\ Assessment \div \$119{,}747 = Parcel\ EDUs$$

Table 5-1 shows the distribution of EDUs across developed and vacant parcels. Approximately 40 percent of the Phase 1 parcels remain vacant.

**Table 5-1: Assessment District 1 EDUs**

| | EDUs | Percent |
|---|---|---|
| Vacant | 194.62 | 37% |
| Developed | 337.24 | 63% |
| **Total** | **531.86** | **100%** |

## 5.2. Wastewater Monthly Service Charges

Under Proposition 218, vacant parcels that are not using wastewater services are not factored into the development of the wastewater rate[1]. To develop the monthly wastewater rate, Raftelis summed the projected O&M costs (Table 4-6) and the General Fund loan repayment amounts (Table 4-9) and then divided by the total number of developed EDUs (Table 4-2). This amount was then divided by the total number of billing periods in one year. Note that the results of this calculation will change as more parcels are developed and the total number of developed EDUs increases. The calculation for the monthly wastewater rate per EDU is shown below:

$$Total\ Expenditures \div Total\ Developed\ EDUs\ \div\ 12\ months = Monthly\ Wastewater\ Service\ Charge$$

Table 5-2 shows O&M expenses from Table 4-6, General Fund loan repayment amounts from Table 4-9, the total developed EDUs from Table 4-2, and the resulting monthly wastewater rate per EDU.

[1] Note that vacant parcels are still responsible for the Phase 1 Assessments.

**Table 5-2: Wastewater Rate per EDU Calculation**

| Line No. | Expenses | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|
| 1 | **O&M Costs*** | $1,967,500 | $2,017,278 | $2,068,315 |
| 2 | **Repayment to General Fund*** | $243,122 | $243,122 | $243,122 |
| 3 | **Total Expenditures*** *(Line 1 + Line 2)* | **$2,210,622** | **$2,260,399** | **$2,311,436** |
| 4 | **Developed EDU's** | 337.24 | 337.24 | 337.24 |
| 5 | **Monthly Waterwater rate ($/EDU)** *(Line 3 / Line 4 / 12 Months)*** | $546.26 | $558.56 | $571.17 |

* Numbers are rounded for display.

**All rates are rounded up to the nearest whole penny.

The total monthly charge for each parcel is determined by multiplying the wastewater rate shown in Table 5-2 by the total EDUs assigned to that parcel. Each developed parcel's monthly service charge is included in Appendix A.

$$Wastewater\ Rate\ (\frac{\$}{EDU}) \times\ Parcel\ EDUs = Parcel\ Monthly\ Wastewater\ Service\ Charge$$

## 5.3. Proposed Wastewater Rates

Table 5-3 shows the proposed wastewater rates for the Study Period.

**Table 5-3: Proposed Monthly Wastewater Rates**

| Description | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|
| **Wastewater Rate ($/EDU)** | $546.26 | $558.56 | $571.17 |

Approximately 40 percent of Phase 1's parcels remain vacant. As these parcels are developed, they will also pay the above rates multiplied by their EDUs for their specific wastewater charges. The calculation of the wastewater EDUs for these parcels' will be based on the same methodology presented in this Study for developed parcels. Vacant parcels are listed in Appendix B.

Table 5-4 displays the annual revenue from the proposed wastewater rates. The City will maintain the current rates for FY 2021 and will have a negative net cash flow as a result. An additional General Fund loan will be issued by the City in FY 2021 (Table 4-8) to cover the operating expenses for the wastewater enterprise. Updated rates are proposed to be implemented in FY 2022 and FY 2023. The updated rates will generate sufficient revenue to cover the City's O&M expenses (Table 4-6) and repay the loans from the General Fund. This financial plan places the City in a better position for Phase 2 of the CCWTF project.

## Table 5-4: Annual Revenue from Proposed Wastewater Rates

| Line No. | | FY 2021 | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|---|
| 1 | **Revenue from Rates** | **$1,610,964** | **$2,210,622** | **$2,260,399** | **$2,311,436** |
| 2 | O&M Expenses | $1,962,325 | $1,967,500 | $2,017,278 | $2,068,315 |
| 3 | General Fund Repayment | $0 | $243,122 | $243,122 | $243,122 |
| 4 | **Total Expenses** | **$1,962,325** | **$2,210,622** | **$2,260,399** | **$2,311,436** |
| 5 | **Net Cashflow (Line 1 - Line 4)** | ($351,361) | $0 | $0 | $0 |
| 6 | General Fund Contribution Amount | $351,361 | $0 | $0 | $0 |

*All numbers are rounded for display.

# 6. Recycled Water Rate

This section describes the assumptions and logic used to update the recycled water rates for the Study Period. The City has decided to distribute treated recycled water to the customers who were the source of the wastewater. The system's wastewater is treated to the tertiary level, whether it is supplied to customers as recycled water or injected into the groundwater basin. The wastewater system incurs these costs with minimal difference between groundwater injection and recycled water distribution costs. Any revenue generated by the recycled water service should be regarded as supplementary, with the wastewater rates generating the required annual revenue to ensure sufficient operation. The City will neither be purchasing recycled water from external systems nor supplementing with potable water to meet any recycled water demand that exceeds flow into the wastewater system and stored capacity.

The recycled water service consists of three rates:

**Inside Assessment District (Phase 1)**

- Tier 1: Wastewater Flow Based on Assessment District Methodology
- Tier 2: District Customers' Usage beyond Wastewater Flow

**Outside Assessment District**

- Outside District: All Usage for Non-Assessment District Customers

Table 6-1 shows the current recycled water rate structure and rates.

**Table 6-1: Current Recycled Water Rates**

| Recycled Water Rates | Current |
|---|---|
| **Inside District** | |
| Tier 1 | $0.00 |
| Tier 2 | $2.04 |
| **Outside District** | $5.70 |

## 6.1. Cost Component Unit Costs

Recycled water costs fall into two categories: capital costs and O&M costs. The capital costs were assessed in the Engineer's Report for the Assessment District and discussed in the 2017 Study (Appendix C). The capital cost component is based on the share of capital costs associated with tertiary wastewater treatment. Since the capital costs associated with tertiary treatment have not changed, the capital cost component of the recycled water rate will remain the same at $3.57 per hcf. As Inside District customers have paid into the capital component as part of the Assessment District, the $3.57 per hundred cubic feet (hcf) is only applied to Outside District usage. A complete explanation of the capital cost component calculation can be found in Appendix C.

The O&M expenses borne by the City are defined by the operating budget discussed in Section 4.2. The O&M cost component of the recycled water rate recuperates the operations and maintenance costs associated with tertiary treatment. Tertiary treatment is both a component of the Treatment Plant Construction capital costs and constitutes 20 percent of these costs[2]. Therefore, the tertiary treatment share of O&M costs is allocated in the same proportions[3].

[2] The Treatment Plant construction share of the total Capital Cost share (56%), can referenced in Section 3 and Section 5.2.1 of the 2017 Report (Appendix C).
[3] Note that this proportion is only taken from the contract and pass-through costs and does not include direct costs.

$$(Load\ Share\ of\ Capital\ Costs) \times (Tertiary\ Treatment\ Share\ of\ Capital\ Costs) \times (Contractual + Passthrough\ Costs) = Tertiary\ Treatment\ Share\ of\ O\&M\ Costs$$

For example, the O&M cost component for the FY 2022 operating budget in (Table 4-6) is:

$$56.5\% \times 20\% \times (\$1{,}155{,}000 + \$288{,}000) = \$163{,}051$$

Finally, this share of the annual budget is then divided by the total recycled water produced in a year, 72,764 hcf. This results in an O&M cost component of $2.24 for FY 2022.

$$\frac{Tertiary\ Treatment\ Share\ of\ O\&M\ Costs}{Total\ Recycled\ Water\ Production} = O\&M\ Cost\ Component$$

$$\frac{\$163{,}051}{72{,}764\ hcf} = \$2.24$$

## 6.2. Recycled Water Rate Calculation

The three identified rates consist of different allocations of these two cost components based on the nature of the customer and the recycled water quantity demanded.

### 6.2.1. INSIDE DISTRICT CUSTOMERS

Inside District customers are subject to a two-tiered rate structure that provides each parcel a static monthly recycled water allocation and assesses a charge based on the parcel's usage above this allocation each month.

#### 6.2.1.1. Tier 1

Inside District parcels have a monthly recycled water allocation, or recycled water budget, based on each parcel's estimated wastewater flows and EDUs, as calculated in the Engineer's Report. These flows are reduced by 5 percent to account for any water loss in the wastewater treatment and distribution processes. This allocation assigns 14.14 hcf per EDU to each developed parcel. A complete list of the Phase 1 parcels with their monthly allocations can be found in Appendix A.

For example, the monthly Tier 1 Allotment for a customer with 2 EDU's in FY 2022 is:

$$2\ EDUs \times 14\ hcf\ per\ EDU = 28\ hcf\ in\ Tier\ 1$$

*All numbers are rounded for display.

#### 6.2.1.2. Tier 2

Any use exceeding the parcel's allocation is considered Tier 2 usage and will be charged a unit rate ($/hcf). The City and Raftelis determined that Assessment District customers should only be charged the O&M cost component for any use above the parcel's allocation since these customers have already paid into the capital component as part of the Assessment District.

For example, if the example customer with 2 EDUs uses 33 hcf of recycled water in a billing period, 5 units of water will be charged the Tier 2 rate.

### 6.2.2. OUTSIDE DISTRICT

Since Outside District customers are not contributing to the Assessment District's Phase 1 capital costs, the rate for these customers consists of two components: capital costs and O&M costs. By incorporating the capital cost component, outside District customers then bear responsibility for the Phase 1 capital costs based on their use. This offsets the costs to District customers in the form of reduced rate increases in future years. The second component, the O&M costs, recover the operational costs of tertiary treatment. This cost component is the same for both inside District and outside District customers.

## 6.3. Proposed Recycled Water Rates

Table 6-2 shows the proposed recycled water rates for the Study period. The recycled water rate structure will remain a tiered system for inside District customers and uniform for outside District customers. Inside District customers will be subject to a two-tiered rate structure that provides each parcel a static monthly recycled water allocation and assesses a charge based on the parcel's usage above this allocation each month. Outside District customers rate consists of two components: capital and O&M costs. By incorporating the capital cost component, Outside District customers then bear responsibility for the Phase 1 capital costs based on their usage. The projected Contract and Pass-through costs shown in Table 4-6 will factor in the proposed Rates.

**Table 6-2: Proposed Recycled Water Rates**

| | Tier | FY 2022 | FY 2023 | FY 2024 |
|---|---|---|---|---|
| **Inside Rate** | | | | |
| | Tier 1 | $0.00 | $0.00 | $0.00 |
| | Tier 2 | $2.24 | $2.30 | $2.36 |
| **Outside Rate** | Uniform | $5.81 | $5.87 | $5.93 |

APPENDIX A:

# Phase 1 Developed Parcels with Proposed Monthly Service Charges

| Assessment Number | Assessor's Parcel Number | Developed EDUs | Monthly Wastewater Service Fees for FY 2022 | Monthly Wastewater Service Fees for FY 2023 | Monthly Wastewater Service Fees for FY 2024 | Recycled Water Tier 1 Allotment |
|---|---|---|---|---|---|---|
| **1** | 4452-011-029 | 6.3611 | $3,475 | $3,553 | $3,633 | 69.4 |
| **2** | 4452-011-033 | 0.9331 | $510 | $521 | $533 | 10.2 |
| **3** | 4452-011-035 | 7.4647 | $4,078 | $4,169 | $4,264 | 88.9 |
| **5** | 4452-011-037 | 2.4224 | $1,323 | $1,353 | $1,384 | 26.4 |
| **6** | 4452-011-039 | 13.7104 | $7,489 | $7,658 | $7,831 | 148.2 |
| **7** | 4452-011-042 | 7.5219 | $4,109 | $4,201 | $4,296 | 84.7 |
| **8** | 4452-011-043 | 13.1498 | $7,183 | $7,345 | $7,511 | 143.8 |
| **9** | 4452-011-803 | 1.5497 | $847 | $866 | $885 | 16.9 |
| **10** | 4452-012-024 | 18.3497 | $10,024 | $10,249 | $10,481 | 200.2 |
| **12** | 4458-002-018 | 0.5486 | $300 | $306 | $313 | 7.8 |
| **13** | 4458-002-019 | 2.0505 | $1,120 | $1,145 | $1,171 | 29.1 |
| **14** | 4458-002-900 | 0.9965 | $544 | $557 | $569 | 14.1 |
| **20** | 4458-018-029 | 1.9059 | $1,041 | $1,065 | $1,089 | 27.0 |
| **26** | 4458-018-904 | 0.5990 | $327 | $335 | $342 | 8.5 |
| **29** | 4458-019-009 | 4.5462 | $2,483 | $2,539 | $2,597 | 49.6 |
| **30** | 4458-019-010 | 124.3166 | $67,909 | $69,438 | $71,006 | 1,332.1 |
| **31** | 4458-020-002 | 0.3744 | $205 | $209 | $214 | 5.3 |
| **32** | 4458-020-004 | 2.1516 | $1,175 | $1,202 | $1,229 | 30.5 |
| **33** | 4458-020-010 | 15.1846 | $8,295 | $8,482 | $8,673 | 173.9 |
| **34** | 4458-020-014 | 21.1238 | $11,539 | $11,799 | $12,065 | 228.5 |
| **39** | 4458-020-903 | 18.2205 | $9,953 | $10,177 | $10,407 | 200.2 |
| **40** | 4458-021-173 | 6.8966 | $3,767 | $3,852 | $3,939 | 97.8 |
| **42** | 4458-021-901 | 6.3573 | $3,473 | $3,551 | $3,631 | 90.2 |
| **51** | 4458-022-029 | 2.7695 | $1,513 | $1,547 | $1,582 | 30.2 |
| **52** | 4458-022-906 | 16.7568 | $9,154 | $9,360 | $9,571 | 237.7 |
| **53** | 4458-027-023 | 4.2828 | $2,340 | $2,392 | $2,446 | 60.8 |
| **54** | 4458-027-024 | 2.0420 | $1,115 | $1,141 | $1,166 | 29.0 |
| **55** | 4458-027-025 | 0.9965 | $544 | $557 | $569 | 14.1 |
| **56** | 4458-028-900 | 0.0735 | $40 | $41 | $42 | 1.0 |
| **57** | 4458-028-901 | 0.1988 | $109 | $111 | $114 | 2.8 |
| **68** | 4458-022-030 | 33.3835 | $18,236 | $18,647 | $19,068 | 360.8 |
| **Total** | | **337.2383** | **$184,220** | **$188,368** | **$192,621** | **3,820.0** |

*All Fees and Totals are rounded for display.

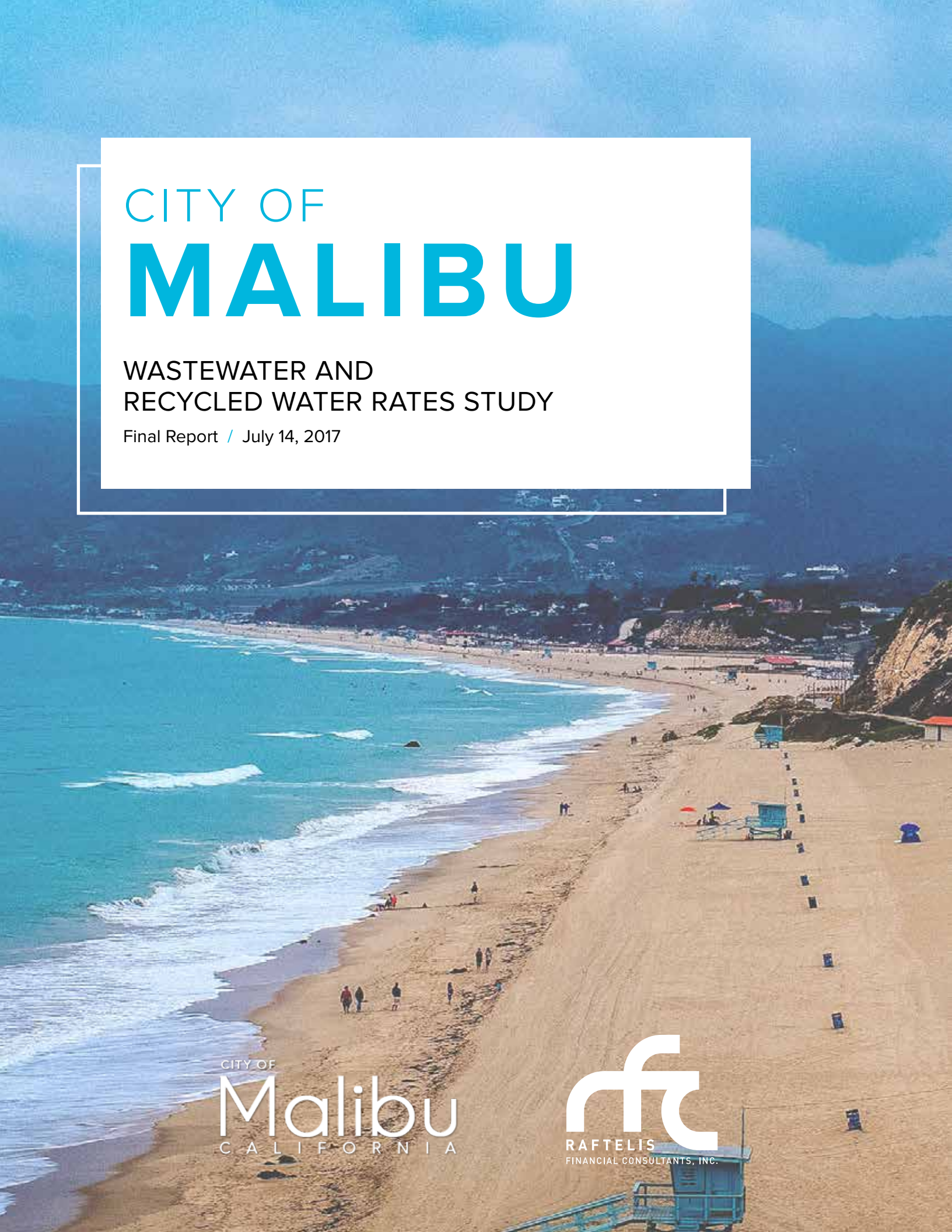
APPENDIX B:

# Vacant and Undeveloped Parcels

| Assessment Number | Assessor's Parcel Number |
|---|---|
| **4** | 4452-011-036 |
| **11** | 4458-001-003 |
| **18** | 4458-018-027 |
| **19** | 4458-018-028 |
| **21** | 4458-018-030 |
| **22** | 4458-018-031 |
| **23** | 4458-018-032 |
| **24** | 4458-018-033 |
| **25** | 4458-018-902 |
| **27** | 4458-019-003 |
| **28** | 4458-019-008 |
| **35** | 4458-020-904 |
| **36** | 4458-020-900 |
| **37** | 4458-020-901 |
| **38** | 4458-020-902 |
| **41** | 4458-021-175 |
| **44** | 4458-022-907 |
| **45** | 4458-022-012 |
| **46** | 4458-022-019 |
| **48** | 4458-022-023 |
| **49** | 4458-022-024 |
| **50** | 4458-022-025 |
| **58** | 4458-018-035 |
| **59** | 4458-018-036 |
| **60** | 4458-018-037 |
| **61** | 4458-018-038 |
| **62** | 4458-018-039 |
| **63** | 4458-018-040 |
| **64** | 4458-018-041 |
| **65** | 4458-018-042 |
| **66** | 4458-018-906 |
| **67** | 4458-018-907 |

APPENDIX C:

# City of Malibu, Wastewater and Recycled Water Rates Study. Final Report June 2017



CITY OF

# MALIBU

## WASTEWATER AND RECYCLED WATER RATES STUDY

Final Report / July 14, 2017

CITY OF Malibu CALIFORNIA

RAFTELIS FINANCIAL CONSULTANTS, INC.

RAFTELIS
FINANCIAL CONSULTANTS, INC.

445 S. Figueroa Street
Suite 2270
Los Angeles, CA 90071

Phone 213 . 262 . 9300
Fax 213 . 262 . 9303

www.raftelis.com

June 28, 2017

Mr. Robert DuBoux
Assistant Public Works Director
City of Malibu
23825 Stuart Ranch Road
Malibu, CA 90265

**Subject: Wastewater and Recycled Water Rates Study Report**

Dear Mr. DuBoux,

Raftelis Financial Consultants, Inc. is pleased to provide this Wastewater and Recycled Water Rates Study Report to the City of Malibu to assist in the City's establishment of wastewater and recycled water utilities with rates that are compliant with governing regulations, including Proposition 218.

The major objectives of the study include the following:

- Develop an operating budget that identifies and estimates the needs of the Wastewater Treatment and Recycled Water Production System
- Build wastewater and recycled water rates and rate structures that are fair and equitable across Phase 1 customers while generating sufficient revenue to maintain the system
- Advise the City on billing & collections management and billing system options

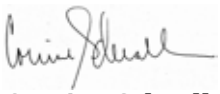
The Report summarizes the key findings and recommendations related to the development of the budget and the wastewater and recycled water rates. It also includes the memorandum provided to the City on May 25, 2017 on billing system options.

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

Sincerely,
***RAFTELIS FINANCIAL CONSULTANTS, INC.***

**Sanjay Gaur**
*Vice President*

**Akbar Alikhan**
*Senior Consultant*



**Corrine Schrall**
*Consultant*

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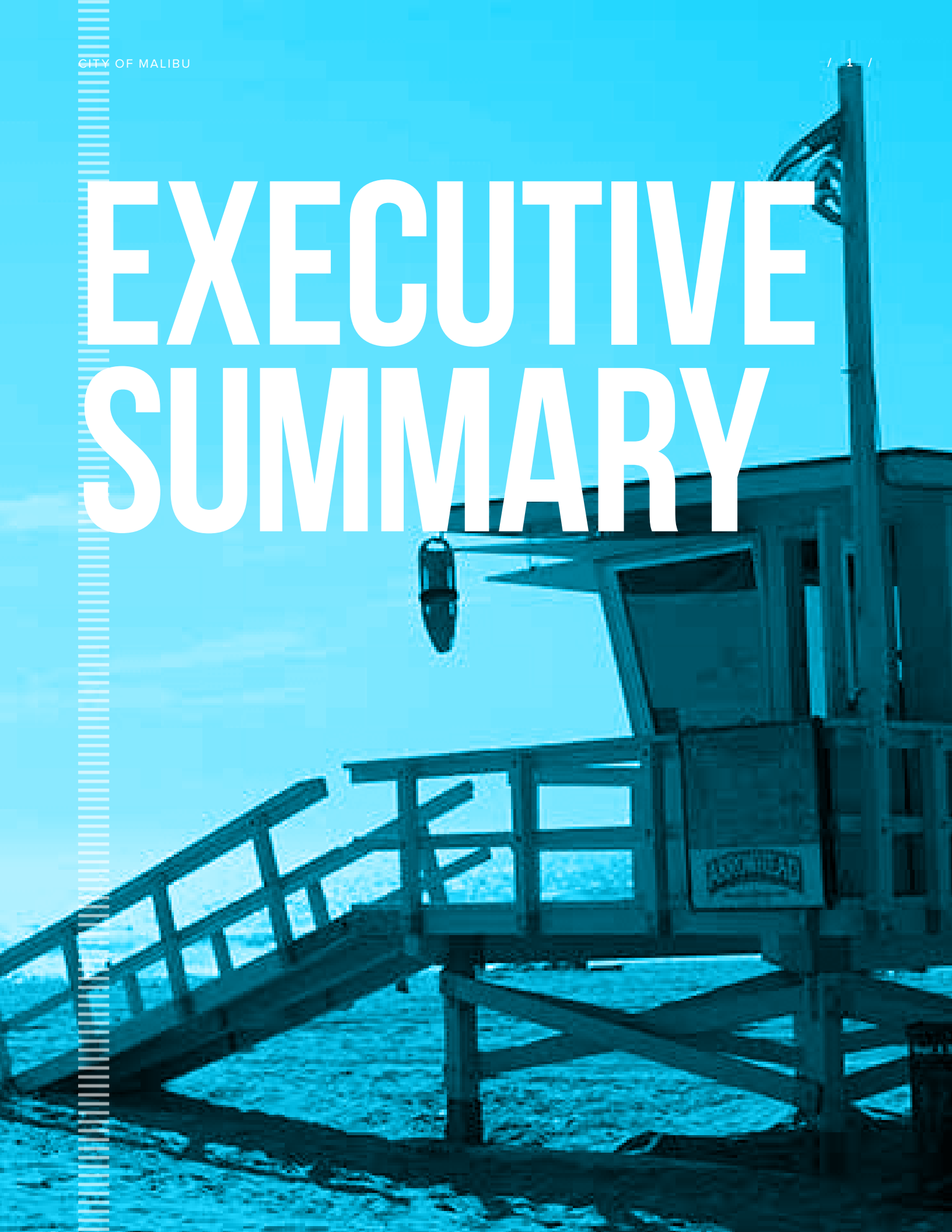
# EXECUTIVE SUMMARY



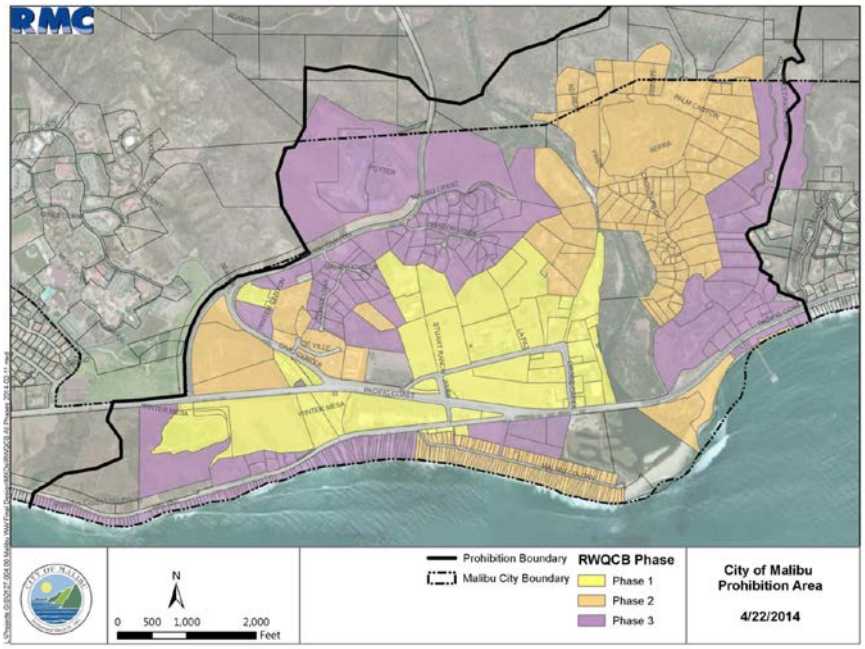
# 1.1 BACKGROUND

In 2011, the City of Malibu (City) reached an agreement with the Regional Water Quality Control Board, Los Angeles Region and the State Water Resources Control Board to phase out the use of onsite wastewater disposal systems (OWDS) in the Civic Center Area of the City. In their place, the City is building a wastewater collection and treatment system as well as a recycled water production, distribution, and aquifer injection system.

The City is developing this project in three phases, and currently completing Phase 1. This phase encompasses the construction of the treatment plant and the collection and distribution systems to nearby parcels. Phase 1 consists of 57 parcels in the central core of the Civic Center. Approximately half of the parcels are developed and consist primarily of commercial properties with a few residential parcels. The area defined as Phase 1 is shown below in yellow.

The City established Assessment District No. 2015-1 (District or Assessment District) to determine each parcel's share in the total cost and expenses of the improvements in this phase. These calculations are contained within the *Modified Engineer's Report – City of Malibu Assessment District No. 2015-1* (Engineer's Report), and are based on the estimated flow and strength of the wastewater contributed by each parcel. In 2016, the City engaged Raftelis Financial Consultants (RFC) to conduct a study that assesses the wastewater and recycled water services' revenue requirements in Phase 1 and develop rates to meet these demands. RFC developed rates consistent with the methodology used in the formation of the Phase 1 Assessment District and detailed associated Engineer's Report. Employing the same methodology helps to ensure fair and equitable distribution of ongoing operations and maintenance (O&M) costs consistent with the evaluation of construction costs in the Engineer's Report. Furthermore, stakeholders supported this consistency in evaluation for fairness and equitability rather than incorporating a new methodology for this component of their total costs for the new utilities.

**Figure 1-1: Project Implementation Map by Phase**



## 1.2 OBJECTIVES OF THE STUDY

The major objectives of the study include the following:

- Develop an operating budget that identifies and estimates the needs of the Wastewater Treatment and Recycled Water Production System
- Build wastewater and recycled water rates and rate structures that are fair and equitable across Phase 1 customers while generating sufficient revenue to maintain the system
- Advise the City on billing & collections management and billing system options

## 1.3 PROPOSED BUDGET

Since the City did not previously provide utility services, it requested RFC's assistance in developing an O&M budget to sufficiently meet the needs of the wastewater and recycled water systems. The budget must both identify the utilities' obligations and project these obligations with sensitivity to the size of the systems and the area served. In addition, the budget needs the flexibility to absorb any unforeseen expenses and changes in expected revenue.

The City is contracting with Integrated Performance Consultants, Inc. (Operator) for the operation, maintenance, and management of the facility. The agreement dated December 1, 2016 outlines the services to be performed by the Operator as well as a number of expenses that the Operator specifically will not cover. The latter costs are identified as "Pass-through" costs. Upon examination of the operator agreement, RFC identified three cost categories under which the O&M expenses will fall:

Contract Costs: These costs are quoted by the Operator in the Operator Agreement, both identifying the expense and providing the cost quoted to the City. General operation and maintenance of the facility encompass the responsibilities of the Operator.

1. Pass-through Costs: These costs are identified in the agreement, but are not given quoted values. They are expenses that the Operator will not cover through its general management of the system and will bill the City for cost recovery of these expense items.
2. Other Direct Costs: These costs were not identified in the operator agreement. RFC instead defined these costs as additional expenses the City will incur by reviewing budgets of peer agencies with similar characteristics to the City.
3. As stated above, the Contract Costs consist of the expenses directly quoted by the Operator in the Operator Agreement. The City should expect to pay these costs annually for the remainder of the agreement's service period. The Pass-through and Other Direct Costs constitute the scope of costs not assessed a value by the operator agreement. Therefore, the City must estimate

these costs to ensure the new rates collect sufficient funding. RFC utilized the following methodology in determining these unquoted costs:

1. Identify unquoted costs
2. Derive realistic per-unit costs by examining comparable agencies
3. Scale per-unit costs to the size of the City's systems

**Table 1-1: Proposed FY 2018 Budget**

| Budget Item | Cost |
|---|---|
| **Contract Costs** | |
| General Operations and Maintenance Standards | $880,885 |
| Operation and Maintenance | $92,481 |
| Operations Monitoring and Review | $126,450 |
| Permits | $1,500 |
| Facilities Plan and Asset Management Maintenance | $54,750 |
| **Contract Total** | **$1,156,066** |
| | |
| **Pass-through Costs** | |
| **Treatment** | |
| Treatment Chemical Costs | $20,000 |
| Biosolids Hauling and Disposal Costs | $19,548 |
| Additional Monitoring & Analysis | $2,504 |
| | |
| **General** | |
| Diesel Fuel for City-Owned Equipment | $1,000 |
| Electrical and Gas | $38,722 |
| Auditor - Efficient Ops Inquiries | $0 |
| Final Contract Year Facilities Audit | $0 |
| Recycled Water Permit Fees | $3,881 |
| Wastewater Permit Fees | $27,620 |
| | |
| **Equipment Maintenance** | |
| Replacement of Spare Parts in excess of $2,000 | $0 |
| Equipment Replacement Costs | $10,000 |
| Additional Equipment for Odor Control | $0 |
| | |
| **Asset Management Plan** | |
| Security and alarm systems upgrades | $0 |
| Routine repairs of pipe systems in excess of $5,000 | $0 |
| Additional asset management plan funding | $0 |
| **Pass-through Total** | **$123,274** |
| | |
| **Other Direct Costs** | |
| Billing & Customer Service | $156 |
| Engineering & Consulting Fees | $50,000 |
| G&A | $13,052 |
| Insurance | $18,548 |
| Legal | $11,813 |
| Salaries/Benefits | $73,000 |
| Telephone | $0 |
| Water | $3,346 |
| Wastewater | $0 |
| Trash | $1,349 |
| **Other Direct Costs Total** | **$171,263** |
| **Total Cost** | **$1,450,603** |

# 1.4 PROPOSED RATES

Table 4-4 lists the proposed wastewater rate for FYs 2018-2020. The proposed rate will remain static with no rate increase for these two years. After FY 2020, the City would like to reevaluate the budget and resultant rates after monitoring costs and revenues for these initial years. This would allow the City to refine the budget as well as adjust rates based on the characteristics of the system and customer base in FY 2020. A complete list of the proposed charges by parcel for both years is also located in Appendix A.

Likewise, the proposed recycled water rate will remain constant for FYs 2018-2020, after which the City will review the budget for any revisions.

Approximately half of Phase 1's parcels remain vacant. As these parcels are developed, they will also pay the rates presented in Table 1-2 and Table 1-3. These parcels' wastewater EDUs are based on the same methodology presented in this study for developed parcels. Undeveloped parcel EDUs are listed in Appendix B.

**Table 1-2: Proposed Wastewater Rates FYs 2018-2020**

| | FY 2018 | FY 2019 | FY 2020 |
|---|---|---|---|
| **Per EDU** | $400.34 | $400.34 | $400.34 |

**Table 1-3: Proposed Recycled Water Rates FYs 2018-2020**

| | FY 2018 | FY 2019 | FY 2020 |
|---|---|---|---|
| **Inside District** | | | |
| Tier 1 | $0.00 | $0.00 | $0.00 |
| Tier 2 | $2.04 | $2.04 | $2.04 |
| **Outside District** | $5.70 | $5.70 | $5.70 |

# 1.5 BILLING SYSTEM OPTIONS

The City determined it will manage customer billing and collections internally, rather than involve the County of Los Angeles. The next step in the process is for the City to determine how it would prefer to manage the meter-to-cash process. RFC has identified three distinct options:

- Springbrook Billing Module
- RFC Custom Software
- Manual Management

A comparison of these options is shown below in Table 1-4.

**Table 1-4: Billing System Options Comparison**

| Option | Springbrook Module | RFC Custom Software | Manual Management |
|---|---|---|---|
| **Costs** | $39,750 | $35,000 | $10,000<br>+ $2500/month if RFC manages |
| **Pros** | • City already uses Springbrook, making integration easier<br>• Adapts readily to growing customer base | • Greater familiarity with the project will allow better customization of software at onset.<br>• Adapts readily to growing customer base | • Allows City to take time to understand its billing system needs before purchase<br>• Saves City cost of buying a billing package for few customers |
| **Cons** | • City may purchase a billing module that does not meet the needs of the system | • Will take more effort to integrate with Springbrook system<br>• May later require further customization | • Eventually would need to be replaced once total customers becomes unmanageable |

# BACKGROUND

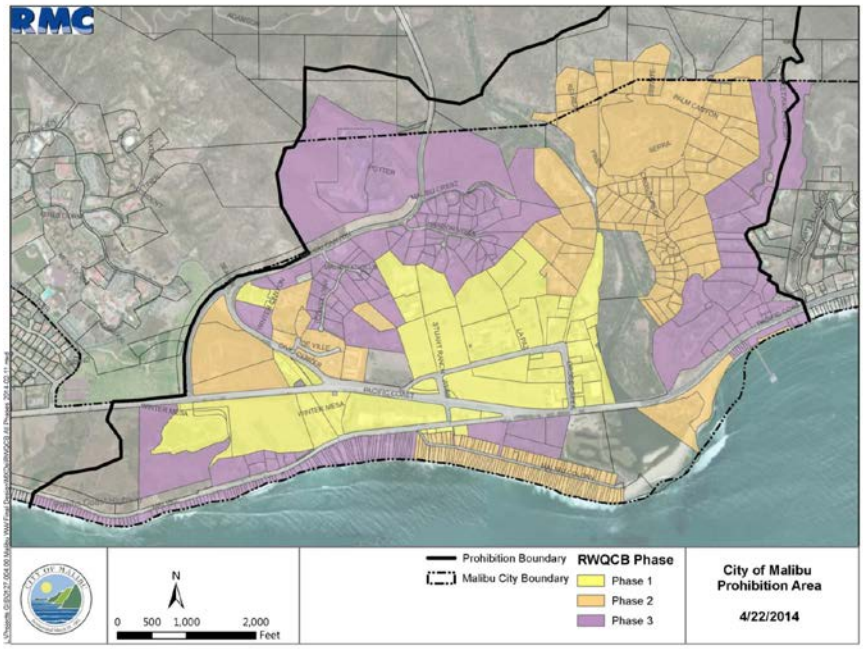
## 2.1 STUDY BACKGROUND

In 2011, the City of Malibu (City) reached an agreement with the Regional Water Quality Control Board, Los Angeles Region and the State Water Resources Control Board to phase out the use of onsite wastewater disposal systems (OWDS) in the Civic Center Area of the City. In their place, the City is building a wastewater collection and treatment system as well as a recycled water production, distribution, and aquifer injection system.

The City is developing this project in three phases, and currently completing Phase 1. This phase encompasses the construction of the treatment plant and the collection and distribution systems to nearby parcels. Phase 1 consists of 57 parcels in the central core of the Civic Center. Approximately half of the parcels are developed and consist primarily of commercial properties with a few residential parcels. The area defined as Phase 1 is shown on the following page in yellow.

The City established Assessment District No. 2015-1 (District or Assessment District) to determine each parcel's share in the total cost and expenses of the improvements in this phase. These calculations are contained within the *Modified Engineer's Report – City of Malibu Assessment District No. 2015-1* (Engineer's Report), and are based on the estimated flow and strength of the wastewater contributed by each parcel. In 2016, the City engaged Raftelis Financial Consultants (RFC) to conduct a study that assesses the wastewater and recycled water services' revenue requirements in Phase 1 and develop rates to meet these demands. RFC developed rates consistent with the methodology used in the formation of the Phase 1 Assessment District and detailed associated Engineer's Report. Employing the same methodology helps to ensure fair and equitable distribution of ongoing operations and maintenance (O&M) costs consistent with the evaluation of construction costs in the Engineer's Report. Furthermore, stakeholders supported this consistency in evaluation for fairness and equitability rather than incorporating a new methodology for this component of their total costs for the new utilities.

## Figure 2-1: Project Implementation Map by Phase



## 2.2 OBJECTIVES OF THE STUDY

The major objectives of the study include the following:

- Develop an operating budget that identifies and estimates the needs of the Wastewater Treatment and Recycled Water Production System
- Build wastewater and recycled water rates and rate structures that are fair and equitable across Phase 1 customers while generating sufficient revenue to maintain the system
- Advise the City on billing & collections management and billing system options

## 2.3 LEGAL REQUIREMENTS AND RATE SETTING METHODOLOGY

The major objectives of the study include the following:

- Develop an operating budget that identifies and estimates the needs of the Wastewater Treatment and Recycled Water Production System
- Build wastewater and recycled water rates and rate structures that are fair and equitable across Phase 1 customers while generating sufficient revenue to maintain the system
- Advise the City on billing & collections management and billing system options

## 2.3.1: CALIFORNIA CONSTITUTION - ARTICLE XIII D, SECTION 6 (PROPOSITION 218)

Proposition 218, reflected in the California Constitution as Article XIII D, was enacted in 1996 to ensure that rates and fees are reasonable and proportional to the cost of providing service. The principal requirements for fairness of the fees are as follows:

1. A property-related charge (such as recycled water and wastewater rates) imposed by a public agency on a parcel shall not exceed the costs required to provide the property related service.
2. Revenues derived by the charge shall not be used for any purpose other than that for which the charge was imposed.
3. The amount of the charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of property.
5. A written notice of the proposed charge shall be mailed to the record owner of each parcel at least 45 days prior to the public hearing, when the agency considers all written protests against the charge.

As stated in AWWA's *Manual M1*, "water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." Proposition 218 requires that water rates cannot be "arbitrary and capricious," meaning that the rate-setting methodology must be sound and that there must be a nexus between the costs and the rates charged. RFC follows industry standard rate setting methodologies set forth by the AWWA *Manual M1* to ensure this study meets Proposition 218 requirements and develops rates that do not exceed the proportionate cost of providing water services.

## 2.3.2: CALIFORNIA CONSTITUTION - ARTICLE X, SECTION 2

Article X, Section 2 of the California Constitution (established in 1976) states the following:

> *It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.*

Article X, section 2 of the State Constitution institutes the need to preserve the State's water supplies and to discourage the wasteful or unreasonable use of water by encouraging conservation, including through the use of alternative sources such as recycled water. As such, public agencies are constitutionally mandated to maximize the beneficial use of water, prevent waste, and encourage conservation.

# 2.3.3: COST-BASED RATE SETTING METHODOLOGY

As stated in the AWWA *Manual M1*, "the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." To develop utility rates that comply with Proposition 218 and industry standards while meeting other emerging goals and objectives of the utility, there are four major steps discussed below.

## CALCULATE REVENUE REQUIREMENT

The rate-making process starts by determining the rate setting year revenue requirement, which for this study is fiscal year ending (FY) 2018. The revenue requirement should sufficiently fund the utility's operations and maintenance (O&M) expenses. The development of the City's O&M budget is detailed in Section 3: Budget Development.

## COST OF SERVICE ANALYSIS (COS)

In the case of the City, the wastewater rate is based on the development of an Equivalent Dwelling Unit (EDU), which allows the City to proportionately distribute the system's O&M costs across the different Phase 1 parcels according to their size in comparison to this EDU. This results in the City charging customers with greater demand on the system a greater share of the O&M expenses as these parcels generate greater costs to the City in providing wastewater service.

Described in greater detail in Section 5, the recycled water rates will generate supplementary income. This is due to the City only producing recycled water from Phase 1 wastewater, resulting in a finite supply. In addition, each Phase 1 parcel is provided an allocation that is the equivalent to that parcel's estimated wastewater flow, reduced by a water loss factor. Therefore, these rates are constructed based on the recovery of the equivalent capital and O&M costs of providing one hundred cubic feet (hcf) of recycled water should any parcel not use its entire allocation.

## RATE DESIGN AND CALCULATIONS

Rates do more than simply recover costs. Within the legal framework and industry standards, properly designed rates should support and optimize a blend of various utility objectives, such as deterring recycled water waste and wastewater revenue stability among other objectives. The latter is particularly important to the City as the utilities are providing entirely new services. Developing a stable wastewater rate will also help the City work within the confines of these new services by providing reliable and consistent revenue generation. In addition, rates may also act as a public information tool in communicating these objectives to customers.

## RATE ADOPTION

Rate adoption is the last step of the rate-making process to comply with Proposition 218. RFC documents the rate study results in this Study Report to serve as the City's administrative record and a public education tool about the proposed rates, the rationale and justifications behind them, and their anticipated financial impacts in lay terms.

# BUDGET DEVELOPMENT

**Since the City did not previously provide utility services, it requested RFC's assistance in developing an O&M budget to sufficiently meet the needs of the wastewater and recycled water systems. The budget must both identify the utilities' obligations and project these obligations with sensitivity to the size of the systems and the area served. In addition, the budget needs the flexibility to absorb any unforeseen expenses and changes in expected revenue.**

The City is contracting with Integrated Performance Consultants, Inc. (Operator) for the operation, maintenance, and management of the facility. The agreement dated December 1, 2016 outlines the services to be performed by the Operator as well as a number of expenses that the Operator specifically will not cover. The latter costs are identified as "Pass-through" costs. Upon examination of the operator agreement, RFC identified three cost categories under which the O&M expenses will fall:

1. **Contract Costs:** These costs are quoted by the Operator in the Operator Agreement, both identifying the cost and providing the cost quoted to the City General operation and maintenance of the facility encompass the responsibilities of the Operator.
2. **Pass-through Costs:** These costs are identified in the agreement, but are not given quoted values. They are expenses that the Operator will not cover through its general management of the system and will bill the City for cost recovery of these expense items.
3. **Other Direct Costs:** These costs were not identified in the operator agreement. RFC instead defined these costs as additional expenses the City will incur by reviewing budgets of peer agencies with similar characteristics to the City.

The sections below and on the following pages detail how RFC derived the line items in the budget per the above-described cost categories.

# 3.1 CONTRACT COSTS

As stated above, the Contract Costs consist of the expenses directly quoted by the Operator in the Operator Agreement. The City should expect to pay these costs annually, with no increase, for the remainder of the agreement's service period. The contract covers five years of service with an effective date of December 1, 2016. The Contract Costs constitute the greatest portion of the budget:

**Table 3-1: Annual Contract Costs**

| Quoted Expense | Cost |
|---|---|
| General Operations and Maintenance Standards | $880,885 |
| Operation and Maintenance | $92,481 |
| Operations Monitoring and Review | $126,450 |
| Permits | $1,500 |
| Facilities Plans and Asset Management Maintenance | $54,750 |
| **Total** | **$1,156,066** |

# 3.2 UNQUOTED COSTS

## 3.2.1: UNQUOTED COST CALCULATION METHODOLOGY

The Pass-through and Other Direct Costs constitute the scope of costs not assessed a value by the operator agreement. Therefore, the City must estimate these costs to ensure the new rates collect sufficient funding. RFC performed the following steps in determining these unquoted costs:

- Identify unquoted costs
- Derive realistic per-unit costs by examining comparable agencies
- Scale per-unit costs to the size of the City's systems

### 3.2.1.1 – STEP 1: IDENTIFY COSTS

#### 3.2.1.1.1 – PASS-THROUGH COSTS

The Operator identified several additional costs that the system will incur during the course of operations. These costs will not be covered in the agreement quote. Rather the Operator will identify these costs on monthly invoices and they will be the City's responsibility in addition to payment for Operator services. The Operator Agreement lists the following pass-through costs on Pages 18-19 under Task 1.5:

1. Diesel fuel costs for city-owned equipment
2. Chemical costs related to the treatment of wastewater (but not including laboratory chemicals)
3. Biosolids hauling and disposal costs
4. Replacement of spare parts greater than $2,000 per year
5. Additional repairs in pipe systems greater than $5,000 per year
6. Permit costs (for both wastewater and recycled water)
7. Equipment replacement costs

In addition, the agreement identifies additional pass-through costs listed in Table 3-2, along with their reference in the Operator Agreement.

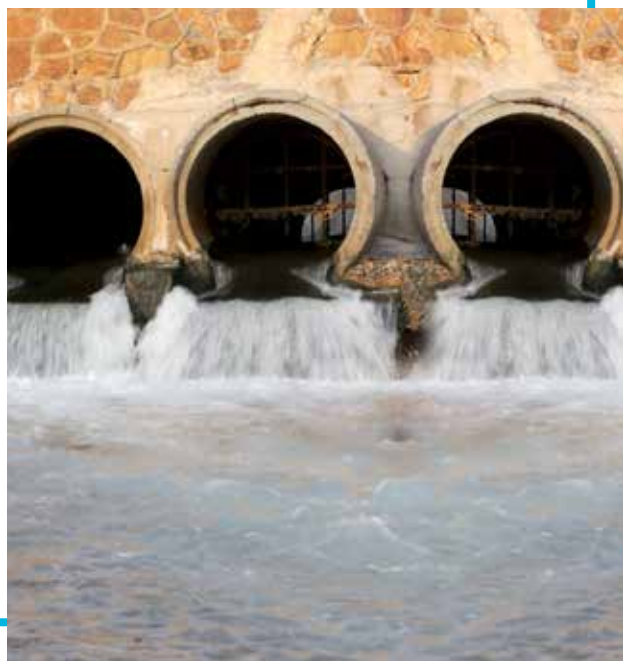
#### 3.2.1.1.2 – OTHER DIRECT COSTS

In addition, RFC expects the City to incur further expenses not identified in the operator agreement. In order to estimate the entirety of the operating budget, RFC examined the defined expenses in budgets for other agencies. Agencies were chosen based on a variety of characteristics bearing similarity to the City, including system size, the availability of recycled water production, proximity to the City, customer base size, and geographic similarity. Through this survey of budgets, RFC identified the additional costs the City will need to include in its rate development:

1. Billing & Customer Service
2. Engineering & Consulting Fees
3. General and Administrative Expenses (G&A)
4. Insurance
5. Legal
6. Salaries & Benefits
7. Water Service
8. Trash Service

**Table 3-2: Additional Pass-through Costs**

| Additional Pass-through Expense | Cost |
|---|---|
| Additional Monitoring & Analysis | Task 1.3.1, Page 14 |
| Electrical and Gas | Task 1.5, Page 19 |
| Auditor – Efficient Operations Inquiries | Task 1.5, Page 19 |
| Final Contract Year Facilities Audit | Task 1.3.9, Page 17 |
| Additional Equipment for Odor Control | Task 1.2.6, Page 12 |
| Security and Alarm Systems Upgrades | Task 2.4, Page 24 |
| Additional Asset Management Plan Funding | Task 2.5, Page 25 |



### 3.2.1.2 – STEP 2: DERIVE PER-UNIT COSTS

Next, RFC estimated the expense to the City for each of the identified unquoted costs. To arrive at these expenses, RFC more closely examined three of the budgets surveyed for the Other Direct Costs' identification. Next, RFC inflated each cost from the agency's budget year to FY 2018, then converted these total costs into per-unit costs in order to scale them to the size of the City's system. RFC determined the unit based on the nature of the cost. For example, Electrical and Gas costs are divided by Average Treated Wastewater in gallons per year. This is because the facilities' use of these utilities correlates to the quantity of wastewater being treated. Therefore, the costs scale linearly. This analysis provided a comparison between the three agencies' per unit costs as well as the average of the three. The units applied to the various costs are:

1. Average Annual Treated Wastewater
2. Wastewater Capacity
3. Total Wastewater and Recycled Water Accounts
4. One-to-One (Costs do not Scale)
5. Full Time Equivalent (FTE) Employees

### 3.2.1.3 – STEP 3: SCALE COSTS

The final step of the process is to scale the cost to the City of Malibu's system. Depending on the cost item being scaled, certain metrics are more appropriate to use as the scale. For example, once a per-unit cost for treatment chemicals per gallon of wastewater is derived from a peer budget, it is appropriate to scale this by the number of gallons treated per year by the City of Malibu. Below are the units chosen for scaling costs to the City's size as well as the City's values for each.

RFC then further refined these costs based on discussions with City staff and RFC's assessment of the nature of particular costs. Resultantly, RFC either used one of the calculated per-unit costs to multiply by Malibu's units for each expense or input a total expense not based on the per-unit calculations. RFC determined that some costs, such as "Final Contract Year Facilities Audit" and "Auditor – Efficient Ops Inquiries", would not be incurred in the first year of operation. Therefore, they were each assessed a zero value. Next, based on the nature of some costs and discussions with the City, RFC did not scale these, rather, input a total annual cost. Examples include "Engineering and Consulting Fees" and "Equipment Replacement Costs", which may not scale linearly or at all given the nature of the consultant's work or the equipment being replaced.

**Table 3-3: Cost Scaling Units**

| Unit Description | Malibu Total Units | Units |
|---|---|---|
| Annual Treated Wastewater | 55,872,349 | Gallons per year (gpy) |
| Wastewater Capacity | 507,000 | Gallons per day (gpd) |
| Total Wastewater and Recycled Water Accounts | 29 | Accounts |
| One to One (Costs do not Scale) | 1 | Equivalent |
| Full Time Equivalent (FTE) Employees | 2 | FTEs |

[1] *The selected budgets belonged to the City of Camarillo, the City of Thousand Oaks, and the Valley Center Municipal Water District.*

3.3

# PROPOSED BUDGET

The following proposed budget is the result of the previously-described calculations and considerations.

**Table 3-4: Proposed FY 2018 Budget**

| Budget Item | Cost |
|---|---|
| **Contract Costs** | |
| General Operations and Maintenance Standards | $880,885 |
| Operation and Maintenance | $92,481 |
| Operations Monitoring and Review | $126,450 |
| Permits | $1,500 |
| Facilities Plan and Asset Management Maintenance | $54,750 |
| **Contract Total** | **$1,156,066** |
| | |
| **Pass-through Costs** | |
| **Treatment** | |
| Treatment Chemical Costs | $20,000 |
| Biosolids Hauling and Disposal Costs | $19,548 |
| Additional Monitoring & Analysis | $2,504 |
| | |
| **General** | |
| Diesel Fuel for City-Owned Equipment | $1,000 |
| Electrical and Gas | $38,722 |
| Auditor - Efficient Ops Inquiries | $0 |
| Final Contract Year Facilities Audit | $0 |
| Recycled Water Permit Fees | $3,881 |
| Wastewater Permit Fees | $27,620 |
| | |
| **Equipment Maintenance** | |
| Replacement of Spare Parts in excess of $2,000 | $0 |
| Equipment Replacement Costs | $10,000 |
| Additional Equipment for Odor Control | $0 |
| | |
| **Asset Management Plan** | |
| Security and alarm systems upgrades | $0 |
| Routine repairs of pipe systems in excess of $5,000 | $0 |
| Additional asset management plan funding | $0 |
| **Pass-through Total** | **$123,274** |
| | |
| **Other Direct Costs** | |
| Billing & Customer Service | $156 |
| Engineering & Consulting Fees | $50,000 |
| G&A | $13,052 |
| Insurance | $18,548 |
| Legal | $11,813 |
| Salaries/Benefits | $73,000 |
| Telephone | $0 |
| Water | $3,346 |
| Wastewater | $0 |
| Trash | $1,349 |
| **Other Direct Costs Total** | **$171,263** |
| **Total Cost** | **$1,450,603** |

# WASTE WATER RATES

**With the budget developed and a total revenue requirement calculated, RFC next developed the wastewater rate. The wastewater rate is intended to generate all required revenue for the system with no reliance on recycled water revenues. The wastewater system must treat to the tertiary level whether the effluent is injected into the groundwater basin or provided to customers. Therefore, wastewater customers are responsible for all stages of the treatment process.**

# 4.1 EQUIVALENT DWELLING UNITS

Utilizing Equivalent Dwelling Units, or EDUs, allows the development of a unit that creates parity across different customers. It creates a base unit to which all parcels are compared in magnitude. For example, a standard home is represented by a defined number of fixtures, wastewater flow quantity, and effluent strength. A restaurant then is defined by how many standard homes it equals in these terms.

In the case of Phase 1 customers, Engineer's Report utilized two such methodologies. For treatment plant construction costs, the Engineer's Report distributed these costs across all parcels based on projected organic load in pounds per day of the parcel when developed. For currently developed parcels, they used the actual characteristics of the developments to estimate total organic load. For vacant parcels, the Engineer estimated the organic load in pounds per day (ppd) based on the zoning of the parcel (commercial, residential), specific uses (e.g. restaurant, retail) on the property, and estimated future building size.

Likewise, the Engineer's Report assumed wastewater flow estimates in gallons per day for each parcel to allocate the collection and distribution system construction costs proportionally. The percent of the total wastewater flow processed by the plant in gallons per day for each parcel then becomes the percent of the collection and distribution system construction costs that each parcel must pay over thirty years. Finally, to estimate each parcel's responsibility for the soft costs, the Engineer's Report then combined the construction and collection/distributions costs (or hard costs) for each parcel and divided it by the total combined hard costs. This combined percentage became the parcel's soft cost percentage.

To maintain consistency with the Engineer's Report, RFC utilized these methodologies to arrive at an EDU for the wastewater rates. First, RFC identified a typical single family home (referred to in this report as a Standard Home), per the Engineer's Report definition, as the EDU. Therefore, each parcel would pay a monthly wastewater service rate based on how many Standard Homes (or EDUs) the parcel's flow and total organic load would equal. For example, per the Engineer's Report, an Estate Home produces 1.91 times the flow and organic load of a Standard Home.

**Table 4-1: Estate Home EDU Calculation**

| | Standard Home [A] | Estate Home [B] | Estate Home EDUs [C=B/A] |
|---|---|---|---|
| **Wastewater Flow (gpd)** | 366 | 700 | 1.91 |
| **Organic Load (ppd)** | .956 | 1.8285 | 1.91 |

Since the assessments in the District are calculated using these ratios, the individual assessments serve to derive each parcel's EDUs based on the assessment for a Standard Home. However, the District does not contain any Standard Homes. Therefore, the first step is to derive a Standard Home assessment from that of an Estate Home. This is done by dividing the Estate Home's Phase 1 assessment by its EDUs.

**Estate Assessment÷1.91 EDUs=Standard Home Assessment or 1 EDU**
**$228,224÷1.91=$119,747**

RFC next divided the Standard Home Assessment of $119,747 into each parcel's assessment share to arrive at each customer's EDUs.

**Phase 1 Assessment÷$119,747=Parcel EDUs**

For example, City Hall has a total assessment of $761,270. Divided by the Standard Home Assessment of $119,747 results in City Hall equaling 6.36 EDUs. RFC calculated the EDUs for each parcel as shown in Appendix A. Table 4 2 shows the distribution of EDUs across developed and vacant parcels. Note that nearly half of the Phase 1 parcels remain undeveloped.

**Table 4-2: Assessment District 1 EDUs**

| | EDUs | Percent |
|---|---|---|
| Developed | 302 | 57% |
| Vacant | 230 | 43% |
| **Total** | **532** | **100%** |

# 4.2 WASTEWATER MONTHLY SERVICE CHARGES

Under Proposition 218, since the vacant parcels will not be using wastewater and recycled water services until they are developed, they will not be factored into the development of the wastewater rate . Therefore, to develop the per EDU monthly wastewater rate, RFC divided the costs assessed in the budget development by the total developed EDUs (302), then divided by total months in a year. Table 4-3 shows this calculation for each of the three budget categories. Note that the results of this calculation will change as more parcels develop, since the total Developed EDUs will increase.

The total monthly charge for each parcel is determined next by multiplying the EDU rate by the total EDUs assigned to that parcel. Each developed parcel's monthly service charge in included in Appendix A.

$400.34 × Parcel EDUs=Parcel Monthly Wastewater Service Charge

**Table 4-3: Wastewater Rate per EDU Calculation**

| Budget Category | Total Category Cost* [A] | Monthly Cost per EDU* [B=A/302 EDUs/ 12 months] |
|---|---|---|
| **Contract** | $1,156,066 | $319.06 |
| **Pass-through** | $123,274 | $34.02 |
| **Other Direct** | $171,263 | $47.27 |
| **Total Wastewater Rate per EDU** | **$1,450,603** | **$400.34** |

**Components are rounded for ease of display.*

[2] *Note that vacant parcels are still responsible for the Phase 1 Assessments.*

# 4.3 PROPOSED WASTEWATER RATES

Table 4-4 lists the proposed wastewater rate for FYs 2018-2020. The proposed rate will remain static with no rate increase for these two years. After FY 2020, the City would like to reevaluate the budget and resultant rates after monitoring costs and revenues for these initial years. This would allow the City to refine the budget as well as adjust rates based on the characteristics of the system and customer base in FY 2020. A complete list of the proposed charges by parcel for both years is included in the Appendix.

Approximately half of Phase 1's parcels remain vacant. As these parcels are developed, they will also pay the above rates multiplied by their EDUs for their specific wastewater charges. These parcels' wastewater EDUs are based on the same methodology presented in this study for developed parcels. Undeveloped parcel EDUs are listed in Appendix B.

**Table 4-4: Proposed Monthly Wastewater Rates FYs 2018-2020**

| | FY 2018 | FY 2019 | FY 2020 |
|---|---|---|---|
| **Per EDU** | $400.34 | $400.34 | $400.34 |

# RECYCLED WATER RATES

The City would like for customers to receive their wastewater flow back as recycled water at no additional cost. However, the City will still need to establish rates to charge customers that exceed their allocations and for any customers outside of the Assessment District that will connect to the recycled water system. The City will neither be purchasing recycled water from outside systems nor supplementing with potable water to meet any recycled water demand that exceeds flow into the wastewater system and stored capacity.

The system's wastewater is treated to the tertiary level whether it is supplied to customers as recycled water or injected into the groundwater basin. The wastewater system incurs these costs with minimal difference between groundwater injection and recycled water distribution costs. Thus, any revenue generated by the recycled water service should be regarded as supplementary, with the wastewater rates generating the required annual revenue to ensure sufficient operation. This additional revenue generated by the recycled water utility will act as an offset to the revenue requirement defined by the budget. This additional income will reduce the need for future rate increases.

As described above, RFC identified three rates to appropriately match the needs of the recycled water service:

**Inside Assessment District (Phase 1)**
- Tier 1: Flow Based on Assessment District Methodology
- Tier 2: District Customers' Usage beyond Flow

**Outside Assessment District**
- Outside District: All Usage for Non-Assessment District Customers

In addition, recycled water costs fall into two categories: capital costs and O&M costs. The capital costs were assessed in the Engineer's Report for the District, while the O&M costs borne by the District are defined by the budget developed in Section 3. These costs' calculations are detailed on the following page.

# 5.1 COST COMPONENT CALCULATIONS

## 5.1.1: CAPITAL COST COMPONENT CALCULATION

The capital cost component is based on the share of District capital costs associated with tertiary wastewater treatment. Based on discussions with staff, tertiary costs are estimated to be 20-percent of the total capital costs categorized as Load (treatment plant construction) costs in the Engineer's report.

Total Load Costs × Tertiary Treatment Percent of Load Costs = Tertiary Costs

$25,989,666 ×20%=$5,197,933

Next, RFC and staff estimated the life of the tertiary capital to average twenty years. Dividing the total tertiary costs by the estimated life provides the annual tertiary capital cost:

$5,197,933 ÷20 years = $259,897

Since customers will be paying per hcf, this annual cost is next divided by the total recycled water produced annually. Based on the Engineer's Report, the City estimates approximately 56M gallons in wastewater flow. Assuming a 5-percent loss in the treatment process, this results in an estimated 53M gallons. Converting gallons to hcfs results in 70,956 hcf. This calculation is also shown in the equation below:

(Wastewater Flow (gals)× Water Loss Factor )/(Gallons per hcf) = Annual Recycled Water Produced

(55,872,349 gals × 95%)/748.05=70,956 hcf

The final step in deriving the capital cost component is to then divide the annual tertiary capital cost by the annual flow derived previously.

(Tertiary Capital Cost)/( Recycled Water Produced) = Capital Cost Component

$259,897/(70,956 hcf) = $3.66 per hcf

## 5.1.2: O&M COST COMPONENT CALCULATION

The next rate component recuperates the operations and maintenance costs associated with tertiary treatment. The total annual O&M costs were calculated in Section 3: Budget Development. As defined above, tertiary treatment is both a component of the Treatment Plant Construction capital costs and constitutes 20-percent of these costs. Therefore, the tertiary treatment share of O&M costs is the result of these same proportions.

(Load Share of Capital Costs)×(Tertiary Treatment Share of Capital Costs)×(Contractual+ Passthrough Costs) = Tertiary Treatment Share of O&M Costs

56.5% × 20% × ($1,156,066+$123,274) = $144,558

Finally, this share of the annual budget is then divided by the total recycled water produced in a year, 70,956 hcf. This results in an O&M cost component of $2.04.

(Tertiary Treatment Share of O&M Costs)/ (Total Recycled Water Production) = O&M Cost Component

$144,558/(70,956 hcf) = $2.04

[3] *Note that this proportion is only taken from the Contract and Pass-through Costs and may include other direct costs in future budget cycles when the actual costs are better known.*

# 5.2 RECYCLED WATER RATE CALCULATION

Finally, the three identified rates consist of different allocations of these two cost components based on the nature of the customer and the recycled water quantity demanded.

## 5.2.1: INSIDE DISTRICT CUSTOMERS

Inside District customers will be subject to a two-tiered rate structure that provides each parcel a static monthly recycled water allocation and assesses a charge based on the parcel's usage above this allocation each month.

### 5.2.1.1 - TIER 1

Inside District parcels will have a monthly recycled water allocation, or recycled water budget, based on each parcel's estimated monthly wastewater flow, as calculated in the Engineer's Report. These flows are reduced by 5-percent to account for any water loss in the wastewater treatment and distribution processes. The calculation of a one EDUs monthly allocation is shown below.

A complete list of the Phase 1 parcels with their monthly allocations is in Appendix A .

### 5.2.1.2 - TIER 2

Any usage exceeding the parcel's allocation is considered Tier 2 usage and will be charged a per hcf rate. The City and RFC determined that Assessment District customers should only be charged the O&M cost component because these customers have already paid into the capital component as part of the Assessment District. Therefore, the total charge per hcf for Tier 2 is $2.04.

## 5.2.2: OUTSIDE DISTRICT

Inside District parcels will have a monthly recycled water allocation, or recycled water budget, based on each parcel's estimated monthly wastewater flow, as calculated in the Engineer's Report. These flows are reduced by 5-percent to account for any water loss in the wastewater treatment and distribution processes. The calculation of a one EDUs monthly allocation is shown below.

**Table 5-1: Monthly Recycled Water Allocation Per EDU**

| Customer Type | Daily Flow (gpd) [A] | Monthly Flow (gpd) [B=A×365/12] | Recycled Water Loss Factor [C] | Recycled Water Allocation (gals) [D=B×C] | Recycled Water Allocation (hcf) [E=D/748.05] |
|---|---|---|---|---|---|
| **Standard Home (one EDU)** | 366 | 11,133 | 95% | 10,576 | 14.14 |

# 5.3 PROPOSED RECYCLED WATER RATES

Table 5-2 lists the proposed Recycled Water Rates for FYs 2018-2020. As with the wastewater rate, these rates will remain static for both years of the Study period. After FY 2020, the City will reevaluate the budget and resultant rates to incorporate any additional cost considerations.

As noted before, approximately half of Phase 1's parcels remain vacant. New customers will pay the rates above as they connect to the system.

**Table 5-2: Proposed Recycled Water Rates FYs 2018-2020**

| | FY 2018 | FY 2019 | FY 2020 |
|---|---|---|---|
| **Inside District** | | | |
| Tier 1 | $0.00 | $0.00 | $0.00 |
| Tier 2 | $2.04 | $2.04 | $2.04 |
| **Outside District** | $5.70 | $5.70 | $5.70 |

# BILLING SYSTEM OPTIONS

The City of Malibu (City) does not currently conduct any utility billing. Therefore, it will need to implement a billing system with the commencement of wastewater and recycled water services. Several factors, such as customer base, rate complexity, and resource availability, affect an agency's choice in billing management. For the City of Malibu, there is a two-step decision:

1. Who will bill customers?
2. How will customers be billed?

This section is extracted from the Billing Systems Memorandum submitted to the City on May 25, 2017 and provides an evaluation of the options identified for the City.

# 6.1 BILLING MANAGEMENT

During the Project Kickoff Meeting, RFC and the City identified three options for managing billing and collection for wastewater and recycled water services. They are:

- Property Tax Roll
- Los Angeles County Waterworks Bill
- Internal Billing Management

## 6.1.1: PROPERTY TAX ROLL

Of the three options, adding the sewer and recycled water charges to the parcel's property tax bill creates the lowest administrative burden for the City. While the City would have to provide the County with the total charges prior to each tax bill, it would not have to create and manage a billing and collection system. In addition, the parcel's Assessment District 1 assessment already appears on the tax bill, so customers would see all charges associated with the system on one bill. Furthermore, this method reduces and potentially eliminates non-payment of charges due to the additional leverage of a lien on the property. This additional stability in revenue receipt is particularly valuable for a new enterprise.

However, this approach does have some limitations as it limits the City's control. Most importantly, it results in the City receiving revenue for these services only twice a year rather than having a steady monthly or bimonthly revenue stream. Related, customers would only be able to review their recycled water consumption once a year when they receive the assessment, with no opportunity to correct behavior throughout the year. Furthermore, the City would also need to determine any rates changes by August for the following year.

In summary, using the tax roll greatly simplifies the City's management of its wastewater and recycled water service billing and collection, but limits the City's control while only providing the enterprises revenue twice a year.

## 6.1.2: LOS ANGELES COUNTY WATERWORKS BILL

Los Angeles County Waterworks District 29 provides potable water service to the City. The County will allow the City to add its wastewater and recycled water charges to its potable water bills for area customers. This would result in a low administrative burden on the City. The billing and collection system is already established and City Staff would only be involved in the computation of monthly bills. In addition, the City will see a regular revenue stream and customers would be able to more immediately adapt their demand due to the County's monthly billing cycle, rather than the biannual revenue in Option 1. Like the property tax roll option, the City may also potentially experience fewer delinquent payments as the County can cut water service for non-payment.

However, this option is complicated by the County charging its accounts by meter, not parcel. The City would need to coordinate meters to accounts and potentially reallocate charges by meter should the meters be owned differently than the parcel where they are located. As with the tax roll, this option limits the City's control over its billing and rate management. It will have to submit any changes in rates to the County to then incorporate.

Overall, this option eases administrative burden and provides regular revenue generation, but requires the City to match parcels to meters and reduces control over its payments.

## 6.1.3: INTERNAL BILLING MANAGEMENT

The final option is for the City to internally manage billing and collections. This option allows the City the greatest flexibility and control over its revenue. The City would be able to directly bill customers based on their parcel number. This removes the added step of matching meters to parcels while maintaining the advantage of monthly revenue flow. Allowing the charges to remain parcel-based is consistent with the Assessment District. The City would have the greatest flexibility in both altering the rate structure and adjusting rates.

However, this option creates the highest administrative burden. Related, it is costlier to set up an internal billing and collection system. The City would also be responsible for ensuring sufficient staff to manage this process and to learn the selected billing system. This burden may be low in Phase 1, however, as there are only 29 developed parcels receiving monthly bills. The final challenge of this approach is that the City will need to enforce late payment itself. While recycled water service could be shut off, such enforcement is not feasible for wastewater service.

## 6.1.4: CONCLUSION

The City has selected Option 3 (Internal Billing Management) as the preferred option. Internal billing management allows the City to more freely manage its revenue while also providing customers timely information to adjust their usage. The City eliminated adding the charges to the County's property tax bills as it did not give customers the opportunity to adjust their recycled water consumption throughout the year. Option 2 (LA County Waterworks Bill) was eliminated as the parcel to meter conversion would create a burden on Staff.

**Table 6-1: Billing Management Options Comparison**

| | City Billing | County Waterworks Billing | Property Tax Roll |
|---|---|---|---|
| **Pros** | • Greater control over billing & collections<br>• Direct billing to customers<br>• Regular revenue flow<br>• Allows customers to address overconsumption each month | • Low administrative burden<br>• Billing & Collection system already established<br>• Potentially less late payments as County can cut water service<br>• Allows customers to address overconsumption each month | • Lowest administrative burden<br>• Billing & Collection system already established<br>• Sewer fee, Assessment District fee, and property taxes would be assessed on same statement by parcel<br>• Reduces/eliminates non-payment of fees |
| **Cons** | • Highest administrative burden<br>• May be costly to set up system & staffing<br>• City will need to enforce late payment | • Working with outside system limits City control<br>• County Waterworks charges per meter, not parcel | • Working with outside system limits City control<br>• Revenue generated only twice a year<br>• Customers limited in ability to correct consumption in a year<br>• Rates needs to be established in August for following year |

# 6.2 BILLING SYSTEM

Since the City determined it would conduct billing and collection services itself, the next step is to decide what system it should use to manage the meter-to-cash process. RFC has identified three distinct options:

1. Springbrook Billing Module
2. RFC Custom Software
3. Manual Management

RFC then examined these options more closely to understand the pros and cons of each and acquired the estimated cost to pursue each option. The three system options are outlined in the table below, with more detailed descriptions following.

**Table 6-2: Billing System Options Comparison**

| Option | Springbrook Module | RFC Custom Software | Manual Management |
|---|---|---|---|
| **Costs** | $39,750 | $35,000 | $10,000<br>+ $2500/month if RFC manages |
| **Pros** | • City already uses Springbrook, making integration easier<br>• Adapts readily to growing customer base | • Greater familiarity with the project will allow better customization of software at onset.<br>• Adapts readily to growing customer base | • Allows City to take time to understand its billing system needs before purchase<br>• Saves City cost of buying a billing package for few customers |
| **Cons** | • City may purchase a billing module that does not meet the needs of the system | • Will take more effort to integrate with Springbrook system<br>• May later require further customization | • Eventually would need to be replaced once total customers becomes unmanageable |

## 6.2.1: SPRINGBROOK MODULE

Springbrook currently provides the City its software, maintenance, and support for its other financial management systems. Therefore, it may integrate an additional billing and collections module fairly seamlessly. Staff would already be familiar with the interface as well, which could potentially ease training and implementation of processes.

The major challenge with this option is that the City's wastewater and recycled water enterprises are new. Therefore, the City cannot know precisely what it needs from its billing software. The City risks purchasing a module that does not suit its needs, potentially creating a greater expense later when the City needs to purchase additional customization. It may also find that another Customizable Off The Shelf (COTS) solution better suits its needs even though Springbrook currently supplies the City's other financial software.

*Budget Cost: $39,750*.

## 6.2.2: RFC CUSTOM SOFTWARE

RFC can build a customized software package for the City that would be based on RFC's familiarity with the City and the project. The software would be designed to integrate with the current Springbrook software, where necessary. However, this process would be less seamless to complete than using Springbrook's software. In addition, it still faces a similar constraint to the Springbrook Module due to the unknowns associated with the needs of these new utilities. This may necessitate further customization at a later date.

*Budget Cost: $35,000.*

## 6.2.3: MANUAL MANAGEMENT

The City can also manage the meter to billing and collections process manually. Staff would add the monthly meter readings to a Microsoft Excel spreadsheet, which would integrate the customers' recycled water use and any resulting charges with the customers' monthly sewer fee. Completing a mail merge using Excel and Microsoft Word, the City would then print the bills using a custom bill template and send to customers.

This system would likely require the same amount of Staff time as an integrated software package. The primary advantage is that it would allow the City to identify and adapt to any challenges or previously unknown needs as the utilities begin to generate revenue. The City could use this method for a year, and reassess its needs after having identified the necessary adaptations. Other cities have used this system for multiple years, waiting to purchase software only when the number of customers exceeded the efficiency of manual management.

*Budget Cost: $10,000, with optional $2,500/month RFC administration*

# APPENDICES

# APPENDIX A: **PHASE 1 DEVELOPED PARCELS WITH PROPOSED MONTHLY SERVICE CHARGES**

| Owner | Assessment # | APN | Developed EDUs | FYs 2018-2020 Monthly Service Charge |
|---|---|---|---|---|
| **23676 And 23726 Malibu Rd LLC** | 11 | 4458-001-003 | 0.00 | $0.00 |
| **23676 And 23726 Malibu Rd LLC** | 13 | 4458-002-019 | 2.05 | $820.92 |
| **3806 Cross Creek Road LLC** | 3 | 4452-011-035 | 7.46 | $2,988.46 |
| **3835 Cross Creek LLC** | 34 | 4458-020-014 | 21.12 | $8,456.79 |
| **3900 Cross Creek LLC** | 6 | 4452-011-039 | 13.71 | $5,488.91 |
| **Archdiocese Of LA Educ And Welfare Corp Our Lady Of Malibu** | 53 | 4458-027-023 | 4.28 | $1,714.60 |
| **CCW Partners LLC** | 32 | 4458-020-004 | 2.15 | $861.39 |
| **Chevron Usa Inc** | 28 | 4458-019-008 | 0.00 | $0.00 |
| **Cross Creek Real Estate Group LLC And Malibu Bear LLC** | 31 | 4458-020-002 | 0.37 | $149.89 |
| **DB Malibu Holdco LLC** | 43 | 4458-022-001 | 0.00 | $0.00 |
| **DB Malibu Holdco LLC** | 47 | 4458-022-022 | 0.00 | $0.00 |
| **First Oaks Oil LLC** | 2 | 4452-011-033 | 0.93 | $373.55 |
| **GTE Calif Inc, SB of E Par 3 Map 201-19-746** | 51 | 4458-022-802 | 2.77 | $1,108.77 |
| **Hitoshi Yamaguchi Tr Et Al,Tosh Trust, Eiko Mori Tr, And H And E Mori Trust** | 45 | 4458-022-012 | 0.00 | $0.00 |
| **Jamestown Premier Malibu Village LP** | 7 | 4452-011-042 | 7.52 | $3,011.37 |
| **Jamestown Premier Malibu Village LP** | 8 | 4452-011-043 | 13.15 | $5,264.46 |
| **KW Malibu Colony LLC** | 30 | 4458-019-010 | 124.32 | $49,769.48 |
| **KW Partnership LP And KW Two Partnership LP** | 29 | 4458-019-009 | 4.55 | $1,820.04 |
| **L A County Consolidated Fire Pro Dist** | 14 | 4458-002-900 | 1.00 | $398.95 |
| **LA County** | 36 | 4458-020-900 | 0.00 | $0.00 |
| **LA County** | 37 | 4458-020-901 | 0.00 | $0.00 |
| **LA County** | 52 | 4458-022-906 | 16.76 | $6,708.50 |
| **Malibu Bay Company** | 44 | 4458-022-011 | 0.00 | $0.00 |
| **Malibu City** | 25 | 4458-018-902 | 0.00 | $0.00 |
| **Malibu City** | 26 | 4458-018-904 | 0.60 | $239.81 |
| **Malibu City** | 38 | 4458-020-902 | 0.00 | $0.00 |
| **Malibu City (City Hall)** | 42 | 4458-021-901 | 6.36 | $2,545.12 |
| **Malibu City (Lumber Yard)** | 39 | 4458-020-903 | 18.22 | $7,294.47 |
| **Malibu Cross Creek Ltd** | 33 | 4458-020-010 | 15.18 | $6,079.06 |

# APPENDIX A: **PHASE 1 DEVELOPED PARCELS WITH PROPOSED MONTHLY SERVICE CHARGES** (CONTINUED)

| Owner | Assessment # | APN | Developed EDUs | FYs 2018-2020 Monthly Service Charge |
|---|---|---|---|---|
| Malibu Lapaz Ranch LLC | 48 | 4458-022-023 | 0.00 | $0.00 |
| Malibu Lapaz Ranch LLC | 49 | 4458-022-024 | 0.00 | $0.00 |
| Malibu Rd Project Owner LLC | 18 | 4458-018-027 | 0.00 | $0.00 |
| Malibu Rd Project Owner LLC | 19 | 4458-018-028 | 0.00 | $0.00 |
| Malibu Rd Project Owner LLC | 20 | 4458-018-029 | 0.00 | $0.00 |
| Malibu Rd Project Owner LLC | 21 | 4458-018-030 | 0.00 | $0.00 |
| Malibu Rd Project Owner LLC | 22 | 4458-018-031 | 0.00 | $0.00 |
| Malibu Rd Project Owner LLC | 23 | 4458-018-032 | 0.00 | $0.00 |
| Malibu Rd Project Owner LLC | 24 | 4458-018-033 | 0.00 | $0.00 |
| Mariposa Land Co Ltd | 10 | 4452-012-024 | 18.35 | $7,346.19 |
| Mariposa Land Company Ltd | 1 | 4452-011-029 | 6.36 | $2,546.64 |
| Mariposa Land Company Ltd | 4 | 4452-011-036 | 0.00 | $0.00 |
| Mariposa Land Company Ltd | 5 | 4452-011-037 | 2.42 | $969.80 |
| MBC Colony Plaza LLC | 57 | 4458-028-020 | 0.20 | $79.58 |
| Miramar Property Investment Co | 40 | 4458-021-173 | 6.90 | $2,761.01 |
| Morton M And Leslie Gerson Trs, Gerson Family Trust | 12 | 4458-002-018 | 0.55 | $219.64 |
| PCH Project Owner LLC | 15 | 4458-018-002 | 0.00 | $0.00 |
| PCH Project Owner LLC | 16 | 4458-018-018 | 0.00 | $0.00 |
| PCH Project Owner LLC | 17 | 4458-018-019 | 0.00 | $0.00 |
| Reco Land Corp | 27 | 4458-019-003 | 0.00 | $0.00 |
| Reco Land Corp | 35 | 4458-020-015 | 0.00 | $0.00 |
| Reco Land Corp | 56 | 4458-028-006 | 0.07 | $29.44 |
| Roman Catholic Archbishop Of LA | 54 | 4458-027-024 | 2.04 | $817.52 |
| Roman Catholic Archbishop Of LA | 55 | 4458-027-025 | 1.00 | $398.95 |
| So Calif Edison Co, SB of E Par 1 Map 148-19-454A | 9 | 4452-011-803 | 1.55 | $620.42 |
| Steven J Knapp Tr, Steven J, Knapp Trust, Joan Knapp Tr, And Knapp Trust | 50 | 4458-022-025 | 0.00 | $0.00 |
| Surfrider Partners LLC | 41 | 4458-021-175 | 0.00 | $0.00 |
| Wave Property Inc | 46 | 4458-022-019 | 0.00 | $0.00 |
| **Monthly Total** | | | **301.95** | **$120,884** |
| **Annual Total** | | | | **$1,450,605** |

# APPENDIX B: **UNDEVELOPED PARCELS' EDUS**

| Owner | Assessment # | APN | Total Phase 1 EDUs |
|---|---|---|---|
| 23676 And 23726 Malibu Rd LLC | 11 | 4458-001-003 | 0.00 |
| Chevron Usa Inc | 28 | 4458-019-008 | 1.89 |
| DB Malibu Holdco LLC | 43 | 4458-022-001 | 13.94 |
| DB Malibu Holdco LLC | 47 | 4458-022-022 | 19.44 |
| Hitoshi Yamaguchi Tr Et Al,Tosh Trust, Eiko Mori Tr, And H And E Mori Trust | 45 | 4458-022-012 | 22.68 |
| LA County | 36 | 4458-020-900 | 0.00 |
| LA County | 37 | 4458-020-901 | 0.00 |
| Malibu Bay Company | 44 | 4458-022-011 | 43.84 |
| Malibu City | 25 | 4458-018-902 | 0.00 |
| Malibu City | 38 | 4458-020-902 | 0.00 |
| Malibu Lapaz Ranch LLC | 48 | 4458-022-023 | 33.15 |
| Malibu Lapaz Ranch LLC | 49 | 4458-022-024 | 5.59 |
| Malibu Rd Project Owner LLC | 18 | 4458-018-027 | 1.91 |
| Malibu Rd Project Owner LLC | 19 | 4458-018-028 | 1.91 |
| Malibu Rd Project Owner LLC | 20 | 4458-018-029 | 1.91 |
| Malibu Rd Project Owner LLC | 21 | 4458-018-030 | 1.91 |
| Malibu Rd Project Owner LLC | 22 | 4458-018-031 | 0.00 |
| Malibu Rd Project Owner LLC | 23 | 4458-018-032 | 0.00 |
| Malibu Rd Project Owner LLC | 24 | 4458-018-033 | 0.00 |
| Mariposa Land Company Ltd | 4 | 4452-011-036 | 8.61 |
| PCH Project Owner LLC | 15 | 4458-018-002 | 0.00 |
| PCH Project Owner LLC | 16 | 4458-018-018 | 0.00 |
| PCH Project Owner LLC | 17 | 4458-018-019 | 9.69 |
| Reco Land Corp | 27 | 4458-019-003 | 1.91 |
| Reco Land Corp | 35 | 4458-020-015 | 3.90 |
| Steven J Knapp Tr, Steven J, Knapp Trust, Joan Knapp Tr, And Knapp Trust | 50 | 4458-022-025 | 4.00 |
| Surfrider Partners LLC | 41 | 4458-021-175 | 23.77 |
| Wave Property Inc | 46 | 4458-022-019 | 29.87 |

# APPENDIX C: **DETAILED OPERATING BUDGET**

| Budget Item | Cost | Source |
|---|---|---|
| **Contract Costs** | | |
| General Operations and Maintenance Standards | $880,885 | Operator Contract, Exhibit B |
| Operation and Maintenance | $92,481 | Operator Contract, Exhibit B |
| Operations Monitoring and Review | $126,450 | Operator Contract, Exhibit B |
| Permits | $1,500 | Operator Contract, Exhibit B |
| Facilities Plan and Asset Management Maintenance | $54,750 | Operator Contract, Exhibit B |
| General Operations and Maintenance Standards | $1,156,066 | Operator Contract, Exhibit B |
| **Contract Total** | **$880,885** | |
| | | |
| **Pass-through Costs** | | |
| **Treatment** | | |
| Treatment Chemical Costs | $20,000 | Chemical costs per gallon ($.000285) × gallons treated (55,872,849) |
| Biosolids Hauling and Disposal Costs | $19,548 | Cost per gallon ($.0019) x plant capacity (507,000) |
| Additional Monitoring & Analysis | $2,504 | Monitoring cost per gallon of plant capacity ($.0087) × plant capacity (507,000) |
| | | |
| **General** | | |
| Diesel Fuel for City-Owned Equipment | $1,000 | Diesel costs per gallon of plant capacity ($.00036) × plant capacity (507,000) |
| Electrical and Gas | $38,722 | Not Scaled per Staff direction |
| Auditor - Efficient Ops Inquiries | $0 | Assumed $15,000 flat fee for services |
| Final Contract Year Facilities Audit | $0 | Not applicable in Year 1 |
| Recycled Water Permit Fees | $3,881 | Not Scaled per Staff direction |
| Wastewater Permit Fees | $27,620 | Not Scaled per Staff direction |
| | | |
| **Equipment Maintenance** | | |
| Replacement of Spare Parts in excess of $2,000 | $0 | Assuming parts are warrantied for Year 1 |
| Equipment Replacement Costs | $10,000 | Assuming parts are warrantied for Year 1. Not Scaled per Staff direction 5/16/2017. |
| Additional Equipment for Odor Control | $0 | Assuming parts are warrantied for Year 1 |
| | | |
| **Asset Management Plan** | | |
| Security and alarm systems upgrades | $0 | Foregoing in Year 1 |
| Routine repairs of pipe systems in excess of $5,000 | $0 | Foregoing in Year 1 |
| Additional asset management plan funding | $0 | Foregoing in Year 1 |
| **Pass-through Total** | **$123,274** | |
| | | |
| **Other Direct Costs** | | |

# APPENDIX C: **DETAILED OPERATING BUDGET** (CONTINUED)

| Budget Item | Cost | Source |
|---|---|---|
| Billing & Customer Service | $156 | Cost per account ($5.37) × number of accounts (84) |
| Engineering & Consulting Fees | $50,000 | Revised by Staff |
| G&A | $13,052 | Cost per gallon ($.00023) x gallons treated (55,872,849) |
| Insurance | $18,548 | Cost per gallon ($.04) x gallons of capacity (507,000) |
| Legal | $11,813 | Assumed one-to-one |
| Salaries/Benefits | $73,000 | Revised by Staff (5/15/17) |
| Telephone | $0 | Not allocated to WW |
| Water | $3,346 | Cost per gallon ($.000060) x gallons treated (55,872,849) |
| Wastewater | $0 | Not allocated to WW |
| Trash | $1,349 | Cost per gallon ($.0009) x gallons of capacity (507,000) |
| **Other Direct Costs Total** | **$171,263** | |
| **Total Cost** | **$1,450,603** | |

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