CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Jeffrey Provenzano

SUBJECT: **See Below**

DATE: October 15, 2025

Approved

Date: 10/23/25

COUNCIL DISTRICT: Citywide

SUBJECT: Master Consultant Agreement with Raftelis Financial Consultants, Inc. for Wastewater Flow and Loading Study

RECOMMENDATION

Adopt a resolution authorizing the City Manager, or her designee, to negotiate and execute a Master Consultant Agreement with Raftelis Financial Consultants, Inc. for an amount not to exceed $3,700,000.

SUMMARY AND OUTCOME

Approval of a master consultant agreement with Raftelis Financial Consultants, Inc. (Raftelis) will provide the City of San José (City) with a service area wastewater flow and loading study that: 1) reflects current community conditions and updates flow, loading, and strength assumptions for different user types; and 2) validates or recommends improvements to reporting methodologies of the City and all agencies discharging to the Regional Wastewater Facility (RWF).

BACKGROUND

In August 2012, the City Auditor released an audit report 12-06, entitled “Environmental Services: A Department at a Critical Juncture”. The audit scope included a review of the City’s sanitary sewer service and use charge, and the allocation of costs to customers. The City Auditor recommended updating assumptions driving sanitary sewer rates for residential customers periodically. After that report, the City completed a flow study for San José residential customers in 2013 and another, wider study that examined sanitary sewer flow and loading for the entire service area of the RWF.

Per the Master Agreement for Wastewater Treatment between the City of San José, City of Santa Clara, and the Tributary Agencies, the RWF capital and operating and maintenance costs are allocated to the Tributary Agencies based on their sanitary sewer flow and strength parameters: biochemical oxygen demand, total suspended solids, and ammonia. The balance of the cost is shared by the cities of San José and Santa Clara based on each jurisdiction's share of the total assessed value for all properties in the two cities. The methodology used for allocating costs is referred to as the Revenue Program and follows guidelines set forth by the State Water Resources Control Board. The wider study, completed in 2015, conducted a detailed flow and strength analysis of customers from throughout the RWF service area, a review of the Revenue Program methodology, and a mass balance comparing estimated sewage discharges measured in flow, biochemical oxygen demand, total suspended solids, and ammonia, to the calculated values that result from the current rate setting process and Revenue Program. The resulting findings included a recommendation that Revenue Program assumptions be updated every 10 years.

As the Revenue Program impacts the utility rates for all users of the RWF, it is imperative that flow studies be conducted by an independent third-party. Therefore, as part of the 2024-2025 Adopted Budget, the Environmental Services Department proposed and received initial funding for an updated comprehensive flow and loading study to be conducted by a consultant over the entire tributary area of the RWF.

ANALYSIS

On March 7, 2025, the City issued a Request for Proposals for interested firms to submit proposals to conduct a sanitary sewer flow and loading study. The comprehensive scope of work, included in this memorandum (see Attachment - Draft Schedule of Specific Services) includes stakeholder engagement, specialized wastewater engineering services, including meter installation and wastewater sampling, data and financial analysis. The scope will be refined in specific service orders under the master consultant agreement.

A proposal by Raftelis was received by the April 25, 2025 extended submittal deadline. A panel consisting of six members, including four representatives from the Environmental Services Department, one representative from the City of Santa Clara and one representative from the City of Milpitas reviewed the written proposal and scored the firm based on compliance with general requirements, experience and expertise, project approach, technical capabilities, and the City's local and small business preferences.

The distribution of points for the proposal is summarized in the following table.

Rating Category	Points Awarded	Points Possible
General Requirements	5	5
Experience and Qualifications	31	35
Project Approach	22	25
Technical Capabilities	23	25
Local Business Enterprise	0	5
Small Business Enterprise	0	5
Total	81	100

Raftelis, a mid-sized firm headquartered in North Carolina, received 81 out of a possible 100 points. Raftelis is a local government and utility management firm providing a wide range of financial assessments and strategic planning capabilities. The firm has a demonstrated history of conducting wastewater flow studies in comparable California jurisdictions, such as the San Francisco Public Utilities Commission, Central Contra Costa Sanitary District, the City of San Diego, and multiple other water and utility districts within the state. They are experienced in crafting recommendations in compliance with California Proposition 218. Raftelis also demonstrated technical expertise in wastewater engineering and sampling collection and evaluation through the partners included in their proposal.

The tasks that Raftelis will complete for this project include, but are not limited to, the following:

- Project Management – Assembling a team to provide the services as described in the master consultant agreement, providing routine progress reports and meetings, conducting a kickoff meeting, and managing project data;
- Stakeholder Engagement – Developing and presenting key messages to all stakeholders, including multiple meetings with the Treatment Plant Advisory Committee, Technical Advisory Committee, and various elected bodies;
- Data Collection, Data Analysis, Monitoring and Extrapolation Strategy and Plan – Determining appropriate data collection methodologies, data organization and analysis, identifying data gaps and developing a monitoring and extrapolation strategy and plan;
- Field Work, Analysis, and Extrapolation – Conducting field reconnaissance for field monitoring and sampling, equipment deployment, field monitoring and sampling, laboratory analysis, flow data analysis, loading analysis, and reporting; and
- Comprehensive Report and Presentation – Drafting and presenting to key stakeholders a final comprehensive report, including a summary and overview of the work conducted under this agreement and a detailed technical narrative of findings.

The study is expected to take approximately 24 months to complete and will result in the study being presented to the Treatment Plant Advisory Committee and the City Council.

EVALUATION AND FOLLOW-UP

If the master consultant agreement is executed, the Environmental Services Department anticipates bringing forward the results of the wastewater flow and loading study to the Treatment Plant Advisory Committee in fall 2027 and to the City Council shortly thereafter.

COST SUMMARY/IMPLICATIONS

Funding for this two-year consultant agreement in the amount of $1,500,000, was included in the 2024-2025 Adopted Operating Budget for the San José/Santa Clara Regional Wastewater Facility. As the funds were unspent in that fiscal year, they were re-budgeted as part of the 2025-2026 Adopted Operating Budget. The competitive procurement process resulted in one proposal that is significantly higher than the original estimate used during the development of the 2024-2025 budget due to the highly technical and specialized nature of the scope of work to be conducted. The total cost of the agreement will not exceed $3,700,000 and will be shared by the City of San José, the City of Santa Clara, and Tributary Agencies through the San José/Santa Clara Regional Wastewater Facility operating cost allocation. The City is responsible for approximately 63% of the cost, or approximately up to $2,331,000. The difference between the approved funding and the agreement total will be covered using anticipated savings in the Environmental Services Department's Non-Personal/Equipment appropriation in the San José-Santa Clara Treatment Plant Operating Fund.

1. TOTAL COST OF CONTRACT/AGREEMENT	$3,700,000
Estimated Costs by Type of Service:	
Project Management	$258,000
Stakeholder Engagement	$153,000
Data Collection, Data Analysis, Monitoring and Extrapolation Strategy and Plan	$271,000
Field Work, Analysis, and Extrapolation	$2,116,000
Comprehensive Report and Presentation	$126,000
Contingency (~10%)	$292,000
Reimbursable Expenses	$14,000
Optional Services	$60,000
Lab Services Allowance	$410,000
TOTAL CONTRACT AMOUNT	**$3,700,000**

BUDGET REFERENCE

The following table identifies the fund and appropriation to fund the contract.

Fund #	Appn. #	Appropriation Name	Total Appropriation	Amount for Contract	2025-2026 Proposed Operating Budget Page*	Last Budget Action (Date, Ord. No.)
513	0762	Environmental Services Department Non-Personal/ Equipment	$66,573,357	$3,700,000	941	10/21/2025 31252

**The 2025-2026 Adopted Operating Budget was approved on June 10, 2025 and adopted on June 17, 2025 by the City Council.*

COORDINATION

This memorandum has been coordinated with the City Attorney's Office and City Manager's Budget Office.

PUBLIC OUTREACH

This memorandum will be posted on the City's Council agenda website for the November 18, 2025 City Council meeting.

COMMISSION RECOMMENDATION AND INPUT

This item is scheduled to be heard at the Treatment Plant Advisory Committee meeting on November 13, 2025. A supplemental memorandum with the committee's recommendation will be included in the City Council's amended agenda.

CEQA

Not a Project, File No. PP17-003, Agreements/Contracts (New or Amended) resulting in no physical changes to the environment.

PUBLIC SUBSIDY REPORTING

This item does not include a public subsidy as defined in section 53083 or 53083.1 of the California Government Code or the City's Open Government Resolution.

/s/
Jeffrey Provenzano, P.E.
Director, Environmental Services Department

For questions, please contact Nick Ajluni, Division Manager, Environmental Services Department, at nick.ajluni@sanjoseca.gov or (408) 535-3503.

ATTACHMENT
Draft Schedule of Specific Services

Consultant: Raftelis Financial Consultants, Inc. dba Raftelis

November 2025

Draft Schedule of Specific Services

(Non-Capital Projects)

Consultant shall provide the schedule of services set forth in this Exhibit. Consultant shall provide all services required by this Exhibit to the satisfaction of the City's contract manager.

General Description of Project for which Consultant will Provide Services: The San José-Santa Clara Regional Wastewater Facility ("RWF") is an advanced treatment facility that serves a population of over 1.4 million residents and 10,000 businesses within the City of San José ("City"), City of Santa Clara, City of Milpitas, Cupertino Sanitary District, West Valley Sanitation District, County Sanitation District No. 2-3 of Santa Clara County, and Burbank Sanitary District. The cities of San José and Santa Clara co-own the RWF. The City of Milpitas, Cupertino Sanitary District, West Valley Sanitation District, County Sanitation District No. 2-3 of Santa Clara County, and Burbank Sanitary District (collectively referred to as "Tributary Agencies") are customers of the RWF.

The RWF's costs are allocated separately to the co-owners and Tributary Agencies. Capital costs are allocated based on each respective agency's contractual share of the RWF's average dry weather influent flow capacity of 167 million gallons per day. Operations and maintenance ("O&M") costs are allocated based on each agency's sewer discharge ("flow") and the ammonia, biological oxygen demand ("BOD"), and suspended solids within that flow (collectively referred to as "billing parameters").

The amounts assumed for each jurisdiction's billing parameters are approximately ten years old and need to be validated or updated to reflect actuality. Additionally, there is a need to synchronize the Tributary Agencies' reporting methodologies for the billing parameters. Therefore, as part of this flow and loading study ("Project"), Consultant will be expected to collect and analyze flow and loading data for the RWF's entire service area prior to making recommendations on how to update the amounts used to allocate the RWF's costs.

Service No. 1: Project Management

1.1 – Project Team and Project Manager: Consultant must assemble a team to provide services as described herein and assign a Project Manager. Consultant's Project Manager will actively manage the activities, communication, and deliverables of Consultant's team members and subconsultants to complete the scope of work within the established budget, schedule, and recognized industry standards. Consultant's Project Manager will also be responsible for the quality assurance of deliverables by coordinating their review for technical correctness, completeness, and readability by qualified, independent reviewers. All coordination between Consultant and City will be via the designated City and Consultant Project Managers or their designees.

1.2 – Monthly Progress Report and Invoices: Consultant will monitor the effort expended as compared to the planned budget and scope of work and submit monthly progress reports and invoices to the City. Each monthly progress report will summarize the progress made on each task, estimate each task's percent completion, note the status of each deliverable, and include an updated schedule. Monthly progress reports will also note any significant issues encountered, risks, or concerns Consultant has. Monthly progress reports will accompany invoices for that billing period.

1.3 – Progress Meetings: Consultant will have routine virtual meetings with the City Project Manager and other City staff at least once every two (2) weeks for the duration of the Project. Meetings will be used to keep the City informed of Consultant's progress and to discuss Project issues. Consultant will prepare agendas and meeting materials in advance, as appropriate, and record action items resulting from these meetings.

1.4 – Kickoff Meeting: Near the start of the Project, Consultant will facilitate a virtual three-hour kickoff meeting with the City to review the goals, expectations, and logistical considerations for the study. Consultant will also confirm stakeholders, communication channels, roles and responsibilities, and administrative processes for the duration of the Project. In preparation for the kickoff meeting, Consultant will develop an agenda and presentation. Following the kickoff meeting, Consultant will submit minutes of the kickoff meeting, a Project Charter that will guide Consultant's work, and a detailed timeline that notes key milestones, deliverables, and engagement activities for the City's review.

1.5 – Document Portal: In consideration of the quantity, size and variety of documents and operational data that Consultant will need to collect and review, Consultant will provide a secure web-based portal for the City to use to facilitate the sharing of such files.

1.6 – Draft and Final Deliverables: Consultant will provide electronic copies of all draft and final deliverables in their original software version (e.g., Word, Excel, or PowerPoint) and as a PDF file.

Service No. 2: Stakeholder Engagement

2.1 – TAC and TPAC Meetings: As directed by the City, Consultant will attend meetings with stakeholders, including but not limited to members of the Technical Advisory Committee ("TAC"), Treatment Plant Advisory Committee ("TPAC"), San José City Council, Santa Clara City Council, and the Tributary Agencies' respective Councils/Boards. The City anticipates having Consultant attend in-person TAC and TPAC meetings near the beginning, middle, and end of the Project (i.e., initially near the kickoff meeting described in **Service No. 1.4** but before the data collection conducted as part of **Service No.3.1**, then during the development of the monitoring and extrapolation strategy and plan described in **Service Nos. 3.3 and 3.4**, and lastly following the field monitoring and sampling described in **Service No. 4.2** but before the finalization of the report described in **Service No. 5.1)**.

2.2 – Communicating Key Messages: As directed by the City, Consultant will develop key messages to convey when meeting with stakeholders and/or to highlight in deliverables. Development of the key messages may entail concept development, copywriting, graphic design. Exact materials will be determined in consultation with the City but may include PowerPoint presentations, frequently asked questions, and fact sheets.

Service No. 3: Data Collection, Data Analysis, Monitoring and Extrapolation Strategy and Plan

3.1 – Data Collection: Consultant will determine the amount of monitoring and sampling needed throughout the RWF's service area to confirm/update the billing parameters attributable to the RWF's co-owners and Tributary Agencies. To do so, Consultant will first compile existing data from each jurisdiction served by the RWF. Data collected will be for at least the five (5) most recent years and include pretreatment data, water consumption data, demographic information, housing characteristics, infrastructure age, and information on the adoption of water conservation technology and building efficiency standards. Consultant will prepare and submit Requests for Information as data is needed from each jurisdiction.

3.2 – Data Organization and Analysis: Consultant will organize and analyze collected data and identify data gaps. Organization of the data may entail development and/or use of a geographic information system ("GIS") mapping and spatial analysis tool. Analysis of the collected data will include evaluation of various customer classes, infrastructure age impacts, effects of water conservation technology and building efficiency standards on sewer discharges. Analysis will also include identification of inconsistencies in the classification of residential, commercial, and industrial users; clarification of various dwelling types including, but not limited to, single family, multi-family, townhomes, condominiums, apartments, mobile homes, and accessory dwelling units; and identification of inconsistencies in the data, methodologies, and/or forms used by the jurisdictions served by the RWF to calculate and report their respective discharges. Consultant will also review past loading studies to ensure continuity and comparability with Consultant's residential, commercial, and industrial monitoring and sampling approach. Consultant will summarize the compiled information and document their findings in a report.

3.3 – Monitoring and Extrapolation Strategy Development: Based on the analysis conducted as part of **Service No. 3.2,** Consultant will identify data gaps within the RWF's service area and then develop a monitoring and extrapolation strategy to address such data gaps. To the extent that it is feasible and cost effective, Consultant will attempt to address data gaps primarily through monitoring and sampling. During the development of the strategy, Consultant will meet with representatives from each jurisdiction served by the RWF individually. The purpose of these 90-minute/2-hour meetings will be to gather feedback on Consultant's proposed monitoring and sampling locations and extrapolation framework. Consultant will prepare an initial/draft list of recommended jurisdiction-specific monitoring and sampling locations, including each location's pipe diameter and flow direction, using information gathered as part of **Service No. 4.1** before meeting with that jurisdiction, and finalize that list after the meeting. All proposed extrapolations must meet statistical requirements and result in validated and defensible values.

3.4 – Monitoring and Extrapolation Plan: Consultant will document Consultant's plan for conducting monitoring and sampling, and extrapolating information in a manner that preserves statistical confidence in the resulting values. The plan will describe: the schedule; protocols that will be followed when sampling each sector (i.e., residential, commercial, and industrial); how pretreatment data will be integrated with field monitoring data; minimum criteria for field measurements and protocols for addressing data outliers/anomalies; and chain of custody procedures. Consultant will submit a draft plan for review. Consultant will allow at least fifteen (15) Business Days for the City to review, compile, and provide comments. Consultant will revise and finalize the plan based on the City's comments and feedback gathered as part of **Service No. 3.3**.

Service No. 4: Field Work, Analysis, and Extrapolation

4.1 – Field Reconnaissance: Concurrent with the development of the monitoring and extrapolation strategy described in **Service No. 3.3**, Consultant will visit various potential monitoring and sampling sites to verify the suitability of manholes for installing flow meters and samplers prior to recommending monitoring/sampling locations or finalizing the monitoring and extrapolation plan. Consultant's site reconnaissance will be limited to top-side investigations to verify potential gas issues and determine the feasibility of flow monitoring and wastewater quality sampling based on the observations of street conditions, manhole locations, and pipeline alignments. Consultant will take photographs and videos of each manhole and street view. Images of the manholes selected for monitoring/sampling will be included in the monitoring and extrapolation plan.

4.2 – Equipment Deployment: Consult will deploy the equipment necessary to conduct the monitoring and sampling described in the monitoring and extrapolation plan described in **Service No. 3.4.** Consultant will obtain encroachment permits from those jurisdictions that require them and follow applicable confined space entry and traffic control protocols when deploying and removing equipment (e.g., protocols established by the jurisdictions served by the RWF, California's Department of Industrial Relations and Caltrans). Consultant may use a subcontractor to comply with the applicable traffic control requirements when deploying and removing the equipment. Equipment used will include meters capable of collecting flow level and velocity measurements in free-flow and surcharged hydraulic conditions. Deployment of the equipment will also include calibration, installation in accordance with the corresponding jurisdiction's requirements, and ensuring the equipment is operational and debris-free. Consultant will remove all equipment upon completion of the monitoring and sampling activities.

4.3 – Field Monitoring and Sampling: Consultant will monitor each location selected for flow monitoring for three (3) consecutive weeks and collect daily samples from each location selected for wastewater quality sampling for fourteen (14) consecutive days. Consultant will report all observed instances of equipment malfunction during the flow monitoring periods. For daily sampling, Consultant will collect 24-hour composite samples for laboratory analysis.

4.4 – Laboratory Analysis: Consultant will manage the laboratory analysis for total dissolved solids, BOD, total suspended solids, and ammonia by ensuring the appropriate test methods (e.g., those in 40 C.F.R Part 136 and those certified by California's Environmental Laboratory Accreditation

Program) are used by certified lab(s). Consultant may use a courier or shipping company to deliver the samples to laboratory and may use a third-party laboratory for the analysis.

4.5 – Flow Data Analysis and Dataset: Consultant will analyze the flow monitoring data for diurnal, seasonal, and peak flow characterization. The analysis may entail statistical validation, filling of data gaps, development of normalization methodologies to account for temporal variations, and/or identification of regional patterns/trends versus jurisdiction-specific characteristics. Consultant will also integrate the flow monitoring data from the various locations into a comprehensive Excel dataset that is SQL-compatible and can be extrapolated from to apply to unmonitored areas. The Excel dataset will include flow and rain data over the period in 15-minute intervals; baseline average dry weather flow values in 15-minute intervals; daily flow and rain amounts; and weekly flow and rain amounts.

4.6 – Loading Model, Analyses, Profiles, and Templates: Using the laboratory analysis results from **Service No. 4.4** as well as the information and dataset from **Service No. 4.5,** Consultant will develop a model to determine the loading profile for each jurisdiction served by the RWF. Prior to developing the loading profiles, Consultant will also analyze residential, commercial, industrial, and institutional loadings using literature and industry benchmarks when possible. The residential loading analysis will include the evaluation of residential loading factors for single family, multi-family, townhomes, condominiums, apartments, mobile homes, and accessory dwelling units; account for variations in housing age, density, and water conservation technology adoption; and include the development of residential loading profiles by housing type with distinct classifications for each housing category. The commercial, industrial, and institutional loading analysis will include characterization by customer class sector; evaluation of the impact of recycled water on indoor water usage (e.g., cooling towers used by small industrial users); and the identification of institutional loading patterns and institutional discharge characteristics. Once the loading analyses are completed, Consultant will calculate each jurisdiction's loading contribution to the RWF's flows using a structured and transparent methodology, perform an uncertainty analysis and sensitivity testing on key variables, and establish statistical confidence intervals for all jurisdiction loading estimates. Consultant may need to reiterate/revise the calculation of each jurisdiction's loading contribution to the RWF's flows pending the comments and feedback gathered as part of **Service No. 5.** Consultant shall create a standardized template and instructions for completing such template based on the final methodology used to calculate each jurisdiction's discharge (i.e., flow and loading contribution) to the RWF that can be used consistently in the future when each jurisdiction reports information to update their billing parameters. Consultant may also recommend installation of permanent meters for future use if supported by Consultant's analyses.

4.7 – Report and Dataset: Consultant will prepare a report summarizing the results of the laboratory analysis conducted as part of **Service No. 4.4**, flow data analysis conducted as part of **Service No. 4.5,** and loading analyses and calculations conducted as part of **Service No. 4.6**. The report will also summarize the field monitoring and sampling conducted as part of **Service 4.3** by including: a location map with address, pipe size, manhole identifier number, flow channel condition, site schematics, and photographs for each flow monitoring and sampling site; flow monitoring data with tabular outputs of depth, velocity, and flow rate, as well as hydrographs of depth, velocity, and flow rates for each flow meter; and the chain of custody forms for the daily samples.

Service No. 5: Comprehensive Report and Presentation

5.1 – Draft and Final Report: Consultant will prepare a comprehensive report that includes a concise executive summary of the Project, an overview of Consultant's stakeholder engagement, and detailed technical narrative of the findings from **Service Nos. 3 and 4.** The technical narrative will include a description of Consultant's statistical analysis procedures, development and validation of loading factors, extrapolation methods and uncertainty analysis, assessment of the data quality and limitations, GIS mapping products and spatial analysis results, summary of all monitoring and sampling sessions, and methodology for data integration. Consultant will submit a draft report for review. Consultant will allow at least fifteen (15) Business Days for the City to review, compile, and

provide comments. Consultant will revise and finalize the report based on the City's comments and feedback gathered as part of **Service No. 5.2.**

5.2 – Presentation to Stakeholders: Consultant will prepare a formal presentation summarizing the results, findings, and conclusions prior to finalization of the report. The presentation will highlight and explain differences between the flows and loadings currently used by the RWF's Revenue Program and Consultant's calculated amounts for each jurisdiction served by the RWF. Consultant will submit a draft PowerPoint presentation for review. Consultant will allow at least ten (10) Business Days for the City to review, compile, and provide comments. Consultant will revise and finalize the PowerPoint presentation based on the City's comments. Consultant may present at a TAC meeting, TPAC meeting, and/or a Board/Council meeting for each jurisdiction served by the RWF.

Service No. 6: Optional Services

6.1 – COD Analysis: If directed by the City, **Service No. 4** will include chemical oxygen demand ("COD") analysis. Consultant's COD analysis may entail evaluation of COD to BOD rations, development of COD loading models, and integration of the COD analysis into comprehensive loading characterizations conducted as part of **Service No. 4**.

6.2 – Monte Carlo Simulation: If directed by the City, Consultant will conduct Monte Carlo simulation as part of the sensitivity analysis conducted as part of **Service No. 4.6**.

6.3 – Model Update Framework: If directed by the City, Consultant will develop framework for future updates (i.e., after the completion of this study), create templates and procedures for ongoing data collection, prepare user guides for City staff on how to maintain and update models, and establish protocols for periodic recalibration.