



## AGENDA REPORT SUMMARY

**Meeting Date:** November 29, 2022

**Subject** Updated Addendum No. 11 to the Regional Water Quality Control Plant Basic Agreement

**Prepared by:** Thanh Nguyen, Senior Civil Engineer

**Reviewed by:** Aida Fairman, Environmental Services and Utilities Director

**Approved by:** Gabriel Engeland, City Manager

**Attachments:**

Attachment A – Resolution No. 2022-\_\_

Attachment 1 – Addendum 11 to Basic Agreement Between the City of Palo Alto, the City of Mountain View, and the City Of Los Altos for the Acquisition, Construction, and Maintenance of a Joint Sewer System

**Initiated by:**

Palo Alto Regional Water Quality Control Plant (RWQCP) Long-Range Facilities Plan

**Previous Council Consideration:**

- June 26, 2012 – Oral presentation from the City of Palo Alto regarding the Final Draft report of the Long-Range Facilities Plan for the RWQCP for informational purposes only.
- February 23, 2016 – Approval of Addendum 8 for the design of the Primary Sedimentation Tank Rehabilitation and Secondary Treatment Upgrades Projects.
- May 26, 2020 – Approval of Addendum No. 10 for constructing the Primary Sedimentation Tank Rehabilitation Project.
- September 20, 2022 – Approval of Addendum 11 for constructing the Secondary Treatment Upgrades Project.

**Fiscal Impact:**

The SRF loan for the in-progress primary sedimentation tank rehabilitation project is being amended from the already approved \$17.0 million in Addendum 10 to a new financing amount of \$19.4 million, as detailed in Addendum 11. Loan repayments for the primary sedimentation tank rehabilitation project will begin in 2024, one year after project substantial completion.

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City Manager

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**Reviewed By:**

City Attorney

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Interim Finance Director

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The SRF loan for the secondary treatment upgrades project is approximately \$193 million. Total project cost estimates were adjusted based on the low bid price received by Palo Alto on October 6, 2022. The requested loan amount reflects securing the initial loan with a conservative total project estimate. The design and construction of this project, including associated construction management and administrative costs, will be financed through the SRF loan, which is disbursed to Palo Alto on a reimbursement basis. Pursuant to SRF policy, the first repayment occurs one year after project substantial completion, which is estimated to be in 2028, one year after project completion. The annual SRF loan repayment, which includes principal and interest, will be based on an amortized period of 30 years.

The estimated annual repayments contributed by contributing partner agency for the Primary Sedimentation Tank Rehabilitation Project and the Secondary Treatment Upgrades Project are summarized in Tables 1 and 2 below:

**Table 1: CWSRF (California Clean Water State Revolving Fund) Loan Repayment Partner Agency Estimates Primary Sedimentation Tank Rehabilitation Project**

<b>Contributing Partner Agency</b>	<b>Percent Share</b>	<b>Annual Repayment<sup>1</sup></b>
Palo Alto	38.16%	\$282,682
Mountain View	37.89%	\$280,681
Los Altos	9.47%	\$70,152
East Palo Alto Sanitary District	7.64%	\$56,595
Stanford University	5.26%	\$38,965
Los Altos Hills	1.58%	\$11,704
<b>Total:</b>	<b>100.00%</b>	<b>\$740,779</b>

Note: 1. Based on CWSRF loan amount of \$19,400,000 at 0.9% locked interest rate for a 30-year term

**Table 2: CWSRF Loan Repayment Partner Agency Estimates Secondary Treatment Upgrades Project**

<b>Contributing Partner Agency</b>	<b>Percent Share</b>	<b>Annual Repayment<sup>1</sup></b>
Palo Alto	38.16%	\$2,767,754
Mountain View	37.89%	\$2,748,171
Los Altos	9.47%	\$686,861
East Palo Alto Sanitary District	7.64%	\$554,131
Stanford University	5.26%	\$381,509



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Los Altos Hills	1.58%	\$114,598
<b>Total:</b>	<b>100.00%</b>	<b>\$7,253,024</b>

Note: 1. Based on CWSRF loan amount of \$192,767,840 at 0.8% locked interest rate for a 30-year term

With the recommended increase in the financing from \$169 million to \$193 million, the Los Altos' annual repayment will increase by \$85,903 from \$600,958 to \$686,861.

**Environmental Review:**

This action is not a project subject to California Environmental Quality Act (CEQA) review under section 15378(b)(4) of the CEQA Guidelines in that it is a government fiscal activity which does not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment. The underlying Secondary Treatment Upgrades Project is exempt under sections 15301, 15302, and 15303 of the CEQA Guidelines. The City of Palo Alto filed a Notice of Exemption for the Secondary Treatment Upgrades Project on April 2, 2021 (State Clearinghouse #2021040051).

**Summary:**

- The Palo Alto Regional Water Quality Control Plant (RWQCP) provides wastewater treatment services for the cities of Palo Alto, Mountain View, Los Altos, Town of Los Altos Hills, East Palo Alto Sanitary District, and Stanford University. Over the years, the costs for projects to upgrade the RWQCP have been shared proportionally by the various agencies.
- In 2012, the RWQCP Long-Range Facilities Plan (LRFP) was prepared to provide a plan for future capital improvement program projects--addressing aging equipment and increasing regulatory requirements.
- The Primary Sedimentation Tank Rehabilitation Project and the Secondary Treatment Upgrades Project address aging infrastructure.

**Staff Recommendation:**

Authorize the City Manager to execute Addendum No. 11 to the Regional Water Quality Control Plant Basic Agreement between the cities of Palo Alto, Mountain View, and Los Altos to fund rehabilitation and upgrade of the secondary treatment system and to increase the financing of the primary sedimentation tank rehabilitation project



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### **Purpose**

Authorize the City Manager to execute Addendum No. 11 to the Regional Water Quality Control Plant Basic Agreement between the cities of Palo Alto, Mountain View, and Los Altos to fund rehabilitation and upgrade of the secondary treatment system and to increase the financing of the primary sedimentation tank rehabilitation project.

### **Background**

In 1968, the cities of Mountain View and Los Altos agreed to retire their wastewater treatment plants and approved a contract with the City of Palo Alto (Basic Agreement, also referred to as the Partners Agreement) for the acquisition, construction, and maintenance of a joint wastewater treatment plant. The Plant began operating in 1972. The Basic Agreement was originally set to expire on July 1, 2035, but was extended to December 31, 2060, as part of Addendum No. 8.

The Palo Alto Regional Water Quality Control Plant (Treatment Plant) provides wastewater treatment services for the cities of Palo Alto, Mountain View, Los Altos, Town of Los Altos Hills, East Palo Alto Sanitary District, and Stanford University. Over the years, various agencies have shared project costs to upgrade the Treatment Plant.

The Treatment Plant is an advanced treatment facility that uses a multi-stage process to remove organic materials and other pollutants from approximately 17 million gallons per day of wastewater generated in the service area. The treated effluent is predominantly discharged to San Francisco Bay and meets the stringent requirements for reuse in recycled water applications. Per the Basic Agreement, Palo Alto owns and operates the Treatment Plant's wastewater treatment and disposal facilities and is responsible for managing capital improvements to the Plant. Partner cities must amend the Basic Agreement to implement and fund major capital projects to replace obsolete or end-of-life equipment.

In 2012, the RWQCP Long-Range Facilities Plan (LRFP) was prepared to provide a plan for future capital improvement program projects--addressing aging equipment and increasing regulatory requirements. The major recommendation of the LRFP was to rehabilitate and replace existing facilities nearing the end of their useful life. The highest priority projects are being implemented over multiple years to manage resources and costs effectively.

Based on LRFP recommendations, Los Altos' Council approved Addendum No. 8 in 2016, Addendum No. 9 in 2018, and Addendum No. 10 in 2020 to authorize the construction and cost-sharing of a sludge dewatering and truck loadout facility; funding for the design of the secondary treatment upgrades project; and funding for the design and construction of the primary sedimentation tank rehabilitation project. Construction of the sludge dewatering facility was completed in 2019, which was a key component of the LRFP. The primary sedimentation tank rehabilitation project is in construction and will be completed in 2023. Other facilities requiring



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capital improvement in the next ten years for facilities at the end of their useful life include a new outfall pipe, new support facilities, relining of an aging joint intercepting sewer, and a new headworks facility.

The Treatment Plant was originally constructed in 1934 and has undergone several expansions and upgrades. A key upgrade in 1972 included the construction of a biological treatment process unit (i.e., secondary treatment). The process unit consists of four concrete aeration basins (each measuring 120 feet by 135 feet and 20 feet deep) that allow the growth of specific bacteria to break down and remove organic compounds in the wastewater. Ancillary facilities included an air blower room and pump stations. This equipment delivers oxygenated process air and recirculates sludge as needed. Other equipment includes a standby power generator, electrical switchgear, and motor control centers to distribute electrical power to the process equipment. This equipment is between 28 to 50 years old and beyond its useful life. The current secondary treatment process is not able to remove nitrogen which is a new regulatory requirement to discharge treated effluent to San Francisco Bay.

Design work for the Secondary Treatment Upgrades project is complete. Construction documents have been prepared, and bids are being solicited from construction contractors. Palo Alto will then award contracts for construction and construction management.

#### California Clean Water State Revolving Fund (SRF) Program

The State Water Resources Control Board Division of Financial Assistance administers the Clean Water State Revolving Fund (SRF) program. The SRF program provides low-interest financing to agencies for wastewater projects. Under this program, eligible projects can apply for loans with interest rates approximately half of the State General Obligation rate, resulting in lower project costs and maximizing benefits to ratepayers and partner agencies. For the Secondary Treatment Upgrades project, Palo Alto executed a loan with the SRF program on May 9, 2022 with favorable terms, including a 0.8% fixed interest rate, a 30-year term, project financing of approximately \$169 million, and debt payments that will start one year after substantial project completion.

The total SRF loan application includes the costs for planning, design, construction, construction contingency, capital program administration, and construction management. The partner agreements with Mountain View, Los Altos, East Palo Alto Sanitary District, and Stanford University all require modification to the document commitment to the project repayment of the SRF Loan.

#### **Discussion/Analysis**

Addendum No. 11 will authorize construction funding to rehabilitate the Primary sedimentation Tank Rehabilitation Project and the Secondary Treatment Upgrades Project.



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Previously, Council approved Addendum No. 10 to fund the Primary Sedimentation Tank Rehabilitation Project. Addendum No. 11 will increase the maximum amount of financing authorized for the construction of the Primary Sedimentation Tank Rehabilitation Project to reflect increases in project costs, including design engineering, construction management, construction contingency, program management, and construction costs.

The Primary Sedimentation Tank Rehabilitation Project addresses aging infrastructure. The primary sedimentation tanks are four in number, each 220 feet long by 41 feet wide by 14 feet deep and covered with a concrete slab. The purpose of these tanks is to remove the majority of the settleable solids. Removal of the settleable solids from the wastewater reduces the organic loading on the secondary treatment process. Electrical gear associated with the primary sedimentation tanks installed in 1972 distributes electrical power to the sludge pumping and collection equipment. Periodically, failures of aged equipment have led to partial process outages and associated expedited repairs and expensive maintenance. The project will rehabilitate the primary sedimentation tank structure and upgrade the associated mechanical and electrical equipment.

For the Primary Sedimentation Tank Rehabilitation Project, assuming an estimated maximum cost of \$19.4 million, an interest rate of 0.9 percent, and a 30-year loan with repayments beginning the year after project completion, the Partners' annual loan payments will be as shown on the first table under "Fiscal Impact" on page 2 of this report. For Los Altos, the estimated payment is \$70,152 annually for 30 years. Annual payments begin approximately December 2023, with the final payment approximately December 2053.

The secondary treatment process must be upgraded to a process that removes harmful nitrogen by creating both oxygen-deficient and oxygen-rich zones in modified aeration tanks. The project will improve final water quality, ensure the Plant continues to meet effluent discharge permit limits, and allow for ultimate decommissioning of the aging bio-trickling filters and other aging equipment. The project will rehabilitate four concrete aeration basins as well as the blower room and sludge pumping stations. Equipment will be replaced, including piping and ancillary systems, extending the useful life of mechanical and electrical equipment components by at least another 30 years, while the concrete and steel structure life cycle will be extended by at least another 50 years. The scope of work includes the following for all four basins: replacement of the air bubble diffusers and the piping manifolds in the basins; replacement and automation of influent and effluent flow diversion gates; concrete work to install new flow channels for flow distribution; replacement of air blowers and sludge pumps; installation of two pump stations, a standby generator and an electrical power load center; and replacement of aging motor control centers (i.e., electrical power distribution equipment).

For the Secondary Treatment Upgrades Project, assuming an estimated maximum cost of \$193 million, an interest rate of 0.8 percent, and a 30-year loan with repayments beginning the year after



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project completion, the Partners' annual loan payments will be as shown on the second table under "Fiscal Impact" on page 2 of this report. For Los Altos, the estimated payment is \$686,681 annually for 30 years. Annual payments begin approximately June 2027, with the final payment approximately June 2057.

On October 6, 2022, the City of Palo Alto received three bids for the Secondary Treatment Upgrades Project. The lowest responsible bid received is \$161,846,500 which is 36% higher than the engineer's estimate of \$119 million. As the three bids received are within 3.5% of each other, Palo Alto staff believes all the bidders had a good understanding of the scope of the project and the bids received are of the current market value. Palo Alto staff also reported that nearby wastewater treatment plant projects in Sunnyvale and Union City received construction bids that were 40% to 100% higher than their engineer's estimates in the last year. The higher costs are likely attributed to supply chain issues, geopolitical situations, the multi-year complexity of the project, inflation including for oil, and the rising costs of materials and labor that includes the ability to hire workers.

With the three bid prices close in range, the City of Palo Alto is not interested in rebidding the project, which may result in higher bids. In addition, the City of Palo Alto has an already negotiated price for the Membrane Aerated Biofilm Reactor that they would have to renegotiate if they were to rebid the project as the bid price has a limited validation period.

Staff recommends that Council approve modifying the recommendation for Addendum No. 11 from the September 20, 2022 Council item to increase the financing authorization amount for the Secondary Treatment Upgrades Project from \$169 million to \$193 million.

**Recommendation**

Authorize the City Manager to execute Addendum No. 11 to the Regional Water Quality Control Plant Basic Agreement between the cities of Palo Alto, Mountain View, and Los Altos to fund rehabilitation and upgrade of the secondary treatment system and to increase the financing of the primary sedimentation tank rehabilitation project