

2.14 Actions Related to the 10165 – Ammonia Pumps Replacement Project at the San José - Santa Clara Regional Wastewater Facility.

Recommendation:

(a) Adopt a resolution adopting the Addendum to the Environmental Impact Report for the San José-Santa Clara Regional Water Pollution Control Plant Master Plan, Ammonia Pumps Replacement Project, File No. ER21-306, in accordance with the California Environmental Quality Act (CEQA), as amended.

(b) Accept the report on bids and award of a construction contract for the 10165 – Ammonia Pumps Replacement Project to the lowest responsive, responsible bidder, Mountain Cascade, Inc., in the amount of \$2,220,250.

(c) Approve a 10% contingency in the amount of \$222,025.

CEQA: Addendum to the Environmental Impact Report for the San José/Santa Clara Water Pollution Control Plant Master Plan (Resolution No. 76858), for the Ammonia Pumps Replacement Project, Project File No. ER21-306. (Environmental Services/Public Works)



Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: Kerrie Romanow
Matt Loesch

SUBJECT: SEE BELOW

DATE: May 1, 2024

Approved

Date

5/14/24

**SUBJECT: ACTIONS RELATED TO THE 10165 – AMMONIA PUMPS
REPLACEMENT PROJECT AT THE SAN JOSE - SANTA CLARA
REGIONAL WASTEWATER FACILITY**

RECOMMENDATION

- (a) Adopt a resolution adopting the Addendum to the Environmental Impact Report for the San José-Santa Clara Regional Water Pollution Control Plant Master Plan (SCH #2011052074), Ammonia Pumps Replacement Project, File No. ER21-306, in accordance with the California Environmental Quality Act, as amended.
- (b) Accept the report on bids and award of a contract for the construction of 10165 - Ammonia Pumps Replacement Project, to the lowest responsive, responsible bidder, Mountain Cascade, Inc., in the amount of \$2,220,250.
- (c) Approve a 10% contingency in the amount of \$222,025.

SUMMARY AND OUTCOME

Award of the contract to Mountain Cascade, Inc. will allow for the construction and completion of the 10165 - Ammonia Pumps Replacement Project at the San José-Santa Clara Regional Wastewater Facility (RWF). (**Attachment** - Ammonia Pump Station: Location Map). Construction of this project will improve the reliability of the disinfection system at the RWF. Approval of a 10% contingency will provide funding for unanticipated work that is necessary for the proper and timely completion of the project.

BACKGROUND

The RWF uses chloramine in its effluent disinfection process. Chloramine is a combination of chlorine and ammonia, which is less corrosive and produces lesser disinfection byproduct than chlorine. The disinfection facility consists of two chemical dosing facilities near the chlorine contact basins: an ammonia facility and a sodium hypochlorite facility. The ammonia facility consists of five ammonia pumps that feed aqueous ammonia to the chlorine contact basin where chloramine is formed. The existing ammonia pumps are oversized and cannot be turned down to the typical dosing range while providing accurate chemical flow control. An upcoming update to the RWF National Pollutant Discharge Elimination System permit is anticipated to require tighter control over the effluent ammonia concentration discharge and thus ammonia dosing control is extremely important.

This project will replace the five existing ammonia pumps with new, smaller pumps that will provide accurate chemical flow control across the anticipated dose setpoint range and contact basin flow range. The five existing flowmeters will also be replaced and a backup flowmeter will be installed. All pump-related appurtenances will be replaced, and a new strut-mounted control panel will be installed. This will result in increased efficiency, reliability, and redundancy at the ammonia facility.

A construction Notice To Proceed is anticipated to be issued in July 2024, with substantial completion anticipated by October 2025.

ANALYSIS

Bids were opened on March 7, 2024, with the following results.

<u>Contractor</u>	<u>Bid Amount</u>	<u>Variance Amount</u>	<u>(Over/Under) Percent</u>
Mountain Cascade, Inc (Livermore)	\$2,220,250	\$1,120,250	102%
Shimmick Construction Company, Inc. (Suisun)	\$2,297,500	\$1,197,500	109%
Pacific Infrastructure Corp. (Pleasanton)	\$2,459,000	\$1,359,000	124%
Metro Builders Engineers Group Ltd. (Newport Beach) <i>(non-responsive)</i>	\$2,554,130	\$1,454,130	132%
Engineer's Estimate	\$1,100,000	--	--

The bids received are between 102% and 132% above the Engineer's Estimate. The lowest responsible bid was submitted by Mountain Cascade, Inc. at \$2,220,250. City staff analyzed the bids and determined that multiple factors may have contributed to the higher-than-expected bid prices, as outlined below.

- Materials and equipment costs typical to wastewater projects are escalating rapidly and somewhat unpredictably due to inflation and industry shortages. This is a particularly significant issue for electrical equipment and instrumentation, which represents a significant portion of the project. The latest expansion of construction activity in California has also resulted in shortage of skilled labor across the industry, contributing to the higher-than-expected bid prices across the various construction projects.
- The final Engineer's Estimate was developed based on vendor cost quotes from 2022 and 2023 and then a nine percent escalation factor was applied to account for recent and anticipated further cost increases, partly based on recent discussions with these vendors. The Engineer's Estimate and the design were finalized in September 2023. Because the bids were not opened until March 2024, additional escalation may have occurred that was not accounted for in the estimate.
- Recent discussion with the pump systems vendor indicates significant pricing increases and added cost items for submittals, project management, Operations and Maintenance manuals, seismic calculations, etc. that the vendor left out of its original quotation but should have been included.
- The project scope is dominated by mechanical and electrical equipment and appurtenances. No new significant structures or civil work is included in the scope. Therefore, the total project cost is much more sensitive to changes in equipment and component pricing than a typical wastewater project.
- The project requires complex sequencing of work and testing necessary to construct the improvements around existing RWF operations and meet RWF process shutdown requirements. Contractors are permitted some flexibility to develop means and methods to complete the project in accordance with specified work sequence restrictions. The estimate attempted to account for sequencing complexities via allowances, but it is possible those allowances were not fully reflective of the costs that were ultimately incorporated in the bids.
- City automation staff requested the addition of a higher level of process instrumentation and incorporation of RWF automation requirements during design. The Engineer's Estimate included allowances for the level of automation required, but it is possible those allowances were not fully reflective of the costs that were ultimately incorporated in the bids.

Despite the bids being higher than the Engineer's Estimate, staff recommends proceeding with the award of the contract for the following reasons outlined below.

- The project improvements are needed to resolve a process control challenge at the disinfection process arising from improperly sized pumps. The improvements are also needed to meet permit requirements when the ammonia limitations become more stringent.
- Critical equipment has a 26-week lead time and process shutdowns for improvements can only occur during dry weather. A several month delay in awarding the project would cause a one-year delay in improvements being completed because the 2025 summer shutdown window would be missed.
- Material and equipment cost escalation continues to be a problem for the construction industry. It is likely that any significant delay in awarding the project would cause project cost to further increase.

Mountain Cascade, Inc. has completed installation of similar chemical metering pumps, with piping, appurtenances, electrical, and instrumentation control equipment for the Central Marin Sanitation Agency in 2016. Mountain Cascade, Inc. has also installed an arsenic treatment system with chemical storage, pump station for Dillon and Murphy in 2016 and a chemical storage and feed pump station for the River Island Development in 2021.

Policy Alternatives

Alternative #1: Direct City staff to reject all bids and not implement the project.

Pros: Capital cost savings in the short term.

Cons: Continued operation of the existing ammonia pumps would result in continued process limitations preventing accurate ammonia dosing to the disinfection process during lower flow conditions, resulting in excessive effluent ammonia and excessive use of the chemical. When new permit limits take effect, effluent ammonia may not comply with limitations under some operating conditions.

Reasons for not recommending: Improvements are necessary to provide the required level of ammonia dosing control and to reduce chemical usage.

Alternative #2: Direct staff to modify the scope and re-bid the project.

Pros: Modifying the scope and re-bidding the project may reduce costs in the near-term.

Cons: A delay in awarding the project in order to re-bid would push project completion forward at least one full year due to the limited summer shutdown window for taking ammonia pumps and controls offline for replacement coupled with the long lead time for ordering equipment.

Reasons for not recommending: Modifying the scope to remove some construction elements would require rejecting all the bids and incurring additional consultant and staff costs to redesign and rebid the project, adding at least 10 to 12 months to the construction schedule. The criticality of the project does not allow for a long delay in rebidding the project. There are no significant elements that could be removed that would substantially reduce project cost without compromising the project's compliance with RWF standards and requirements. Rebids also do not necessarily force a more competitive market condition and there is also no guarantee that

future bids will be in line with the Engineer’s Estimate. All prequalified contractors may not participate in the rebidding process. In addition, considering the tight labor market and abundance of construction work in the Bay Area, costs may increase substantially, and qualified specialty subcontractors may not be available, reducing any potential savings to the City.

Procurement Issues

The bid submitted by Metro Builders & Engineers Group, Ltd. was deemed non-responsive for failing to provide the specific bidder’s experience information required by the City.

Contingency

San José Municipal Code Section 27.04.050 provides a standard contingency of 10% of the total contract amount for all public works contracts except those involving the renovation of a building or buildings. The standard 10% contingency is deemed appropriate for this project.

Project Labor Agreement Applicability

The City’s Project Labor Agreement is not applicable to this project because the Engineer’s Estimate is below the \$1.22 million threshold.

Wage Theft Prevention Policy Check

The Office of Equality Assurance reviewed bidders for compliance with the City’s Wage Theft Prevention Policy on March 7, 2024 and again on April 5, 2024. No wage theft issues were identified.

Local and Small Business Outreach

Mountain Cascade, Inc. is not a local or a small business enterprise. In addition, no local subcontractors were listed.

EVALUATION AND FOLLOW-UP

No follow-up action with City Council is expected currently. Quarterly progress reports of the RWF Capital Improvement Program will also be submitted to the Treatment Plant Advisory Committee and posted on the City’s website.

COST SUMMARY/IMPLICATIONS

In accordance with the recommendations set forth in the Capital Project Cost Allocation Technical Memorandum (Carollo Engineers, March 2016), this project is allocated between the

four billable parameters relative to the rolling weighted average distribution of all RWF assets. The source of funding for this project is through the 512 San José-Santa Clara Treatment Plant Capital Fund and 513 San José-Santa Clara Treatment Plant Operating Fund. The project will have no additional impact on the General Fund.

1. TOTAL COST OF PROJECT:

Project Delivery*	\$736,006
Construction	\$2,220,250
<u>Contingency (10%)</u>	<u>\$222,025</u>
TOTAL PROJECT COSTS	\$3,178,281

* Project delivery includes \$237,875 for design consultant, \$39,786 for construction management review during the design phase, \$370 for construction management during the bid and award, \$407,089 for construction management during the construction phase, and \$50,886 for post-construction and project closeout. The project delivery cost is approximately 33% of the construction cost, which is on the lower end of the typical 30% to 60% range and is likely due to the higher-than-expected construction bid.

2. COST ELEMENTS OF CONTRACT:

Mobilization/Demobilization	\$88,000
Removal/Disposal of pumps and appurtenances	40,000
Ammonia metering pumps	1,100,000
Flowmeters, pump controllers, valves, piping, fitting, etc.	682,250
Distributed Control System remote Input/Output Panel/System Integration	205,000
Miscellaneous	105,000
TOTAL BASE BID AMOUNT	\$2,220,250

BUDGET REFERENCE

The table below identifies the fund and appropriations to fund the contract recommended as part of this memorandum and remaining project costs, including project delivery, construction, and contingency costs.

Fund #	Appn #	Appn. Name	Total Appn	Amt. for Contract	2023-2024 Adopted Capital Budget Page	Last Budget Action (Date, Ord. No.)
512	5690	Plant Infrastructure Improvements	\$6,510,000	\$2,220,250	290	10/17/2023 Ord. No. 30966

HONORABLE MAYOR AND CITY COUNCIL

May 1, 2024

Subject: Actions Related to the 10165 – Ammonia Pumps Replacement Project at the San José – Santa Clara Regional Wastewater Facility

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COORDINATION

This memorandum has been coordinated with the City Attorney’s Office, the City Manager’s Budget Office, the Finance Department, and Planning, Building, and Code Enforcement Department.

PUBLIC OUTREACH

This memorandum will be posted on the City’s Council Agenda website for the June 4, 2024 City Council meeting.

COMMISSION RECOMMENDATION AND INPUT

This item is scheduled to be heard at the May 23, 2024, Treatment Plant Advisory Committee meeting. A supplemental memorandum with the committee’s recommendation will be included in the June 4, 2024 City Council meeting agenda.

CEQA

Addendum to the Environmental Impact Report for the San José/Santa Clara Water Pollution Control Plant Master Plan (Resolution No. 76568), File No. ER21-306, for the Ammonia Pumps Replacement Project.

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/
KERRIE ROMANOW
Director, Environmental Services Department

/s/
MATT LOESCH
Director, Public Works

HONORABLE MAYOR AND CITY COUNCIL

May 1, 2024

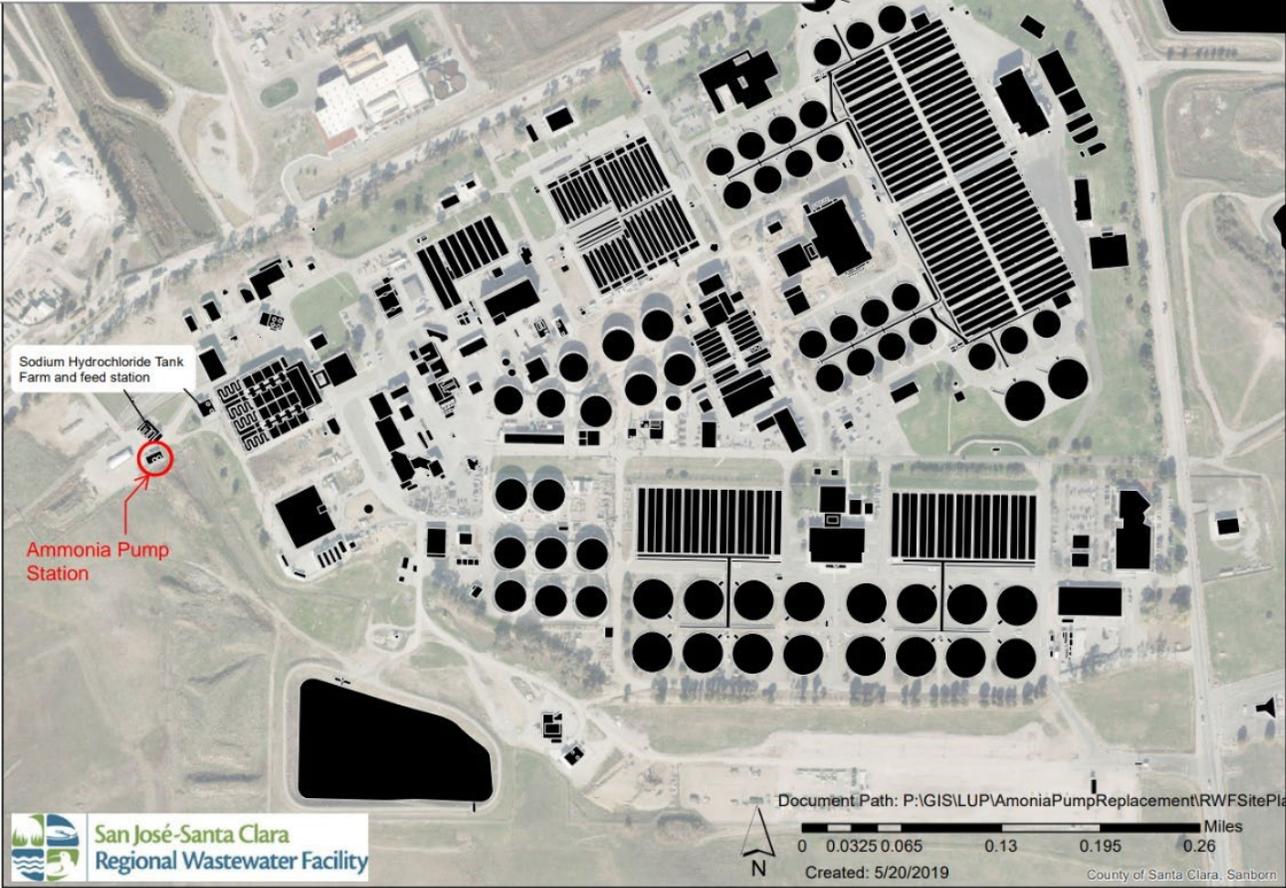
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For questions, please contact Mariana Chavez-Vazquez, RWF General Manager, at Mariana.Chavez-Vazquez@sanjoseca.gov or (408) 535-8550.

ATTACHMENT: Ammonia Pump Station: Location Map

Ammonia Pump Station: Location Map



SAN JOSE / SANTA CLARA WATER POLLUTION CONTROL PLANT

TREATMENT PLANT ADVISORY COMMITTEE

May 23, 2024

The Honorable Mayor and City Council
City of San José
200 East Santa Clara Street,
San José, CA 95113

Dear Mayor Mahan and City Council:

At its meeting on May 23, 2024, the Treatment Plant Advisory Committee (TPAC) reviewed this item:

5. C. Actions Related to the 10165 – Ammonia Pumps Replacement Project

Staff Recommendation to Committee for City Council:

- a) Adopt a resolution adopting the Addendum to the Environmental Impact Report for the San José-Santa Clara Regional Water Pollution Control Plant Master Plan (SCH #2011052074), Ammonia Pumps Replacement Project, File No. ER21-306, in accordance with the California Environmental Quality Act, as amended.
- b) Accept the report on bids and award of a contract for the construction of 10165 - Ammonia Pumps Replacement Project, to the lowest responsive, responsible bidder, Mountain Cascade, Inc., in the amount of \$2,220,250.
- c) Approve a 10% contingency in the amount of \$222,025.

Action: On a motion made by Committee Member Kwok and a second by Committee Member Turner, TPAC recommended approval of item 5. C.

Ayes - 9 (Batra, Candelas, Davis, Gillmor, Kwok, Harkness, Montano, Turner, Watanabe)

Nays - 0

Abstain - 0

Sincerely,



Kathy Watanabe, Chair (Alternate)
TREATMENT PLANT ADVISORY COMMITTEE

RESOLUTION NO. _____

A RESOLUTION OF THE COUNCIL OF THE CITY OF SAN JOSE ADOPTING THE ADDENDUM TO THE SAN JOSE-SANTA CLARA WATER POLLUTION CONTROL PLANT MASTER PLAN ENVIRONMENTAL IMPACT REPORT FOR THE REGIONAL WASTEWATER FACILITY'S AMMONIA PUMP REPLACEMENT PROJECT, FOR WHICH AN INITIAL STUDY WAS PREPARED IN ACCORDANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

WHEREAS, the City of San José (“City”) acting as lead agency under the California Environmental Quality Act (“CEQA”), prepared the Environmental Impact Report (“EIR”) for the San José-Santa Clara Water Pollution Control Plant Master Plan Project which analyzed the environmental impacts of planned improvements to the San José-Santa Clara Regional Wastewater Facility through the year 2040; and

WHEREAS, in connection with the adoption of a resolution approving the San José-Santa Clara Water Pollution Control Plant Master Plan (“PMP”) Project EIR (Planning File No. PP11-043), the City Council adopted Resolution No. 76858 on November 19, 2013, setting forth certain findings pertaining to the PMP EIR and adopting a mitigation monitoring and reporting program, all pursuant to the provisions of CEQA; and

WHEREAS, prior to the adoption of this Resolution, the Director of Planning, Building and Code Enforcement prepared and approved an Addendum to the PMP EIR, all in accordance with CEQA; and

WHEREAS, the Regional Wastewater Facility’s Ammonia Pump Replacement Project (the “Project”) analyzed under the Addendum consists of upgrades to the chemical dosing system by replacing and repairing ammonia pumps, control panels and meters at the San José-Santa Clara Regional Wastewater Facility (700 Los Esteros Road) in San José, California; and

WHEREAS, as further described in the Addendum, the implementation of the Project would not result in new significant effects on the environment beyond those already identified in the previously approved PMP EIR, nor will the Project result in an increase in the severity of significant effects identified in the PMP EIR, and identified mitigation measures would continue to reduce each of those significant effects to a less-than-significant level; and

WHEREAS, the City of San José is the lead agency on the Project, and the City Council is the decision-making body for the proposed approval to undertake the Project; and

WHEREAS, the City Council has reviewed and considered the PMP EIR and the Addendum for the Project and intends to take actions on the Project in compliance with CEQA and state and local guidelines implementing CEQA; and

WHEREAS, the PMP EIR and the Addendum thereto for the Project are on file in the Office of the Director of Planning, Building and Code Enforcement, located at 200 East Santa Clara Street, 3rd Floor Tower, San José, California, 95113, are available for inspection by any interested person at that location and are, by this reference, incorporated into this Resolution as if fully set forth herein;

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF SAN JOSE:

THAT THE CITY COUNCIL does hereby incorporate the foregoing recitals by reference into this Resolution.

THAT THE CITY COUNCIL does hereby make the following findings: (1) it has independently reviewed and analyzed the Addendum and other information in the record and has considered the information contained therein, prior to acting upon or approving

the Project, (2) the Addendum prepared for the Project has been completed in compliance with CEQA and is consistent with state and local guidelines implementing CEQA, and (3) the Addendum represents the independent judgment and analysis of the City of San José, as lead agency for the Project. The City Council designates the Director of Planning, Building and Code Enforcement at the Director's Office at 200 East Santa Clara Street, 3rd Floor Tower, San José, California, 95113, as the custodian of documents and records of proceedings on which this decision is based.

THAT THE CITY COUNCIL does hereby find that based upon the entire record of proceedings before it and all information received that there is no substantial evidence that the Project will have a significant effect on the environment and does hereby adopt the Addendum prepared for the Project (Planning File No. ER21-306). The Addendum is: (1) on file in the Office of the Director of Planning, Building and Code Enforcement, located at 200 East Santa Clara Street, 3rd Floor Tower, San José, California, 95113 and (2) available for inspection by any interested person.

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ADOPTED this ____ day of _____, 2024 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

Matt Mahan
Mayor

ATTEST:

TONI J. TABER, CMC
City Clerk