



Department: Utilities
Cost Center: 601 – Water Fund
For Agenda of: 11/15/2022
Placement: Study Session
Estimated Time: 90 Minutes

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SUBJECT: STUDY SESSION: RECEIVE AN UPDATE ON THE RECYCLED WATER MAXIMIZATION STUDY

RECOMMENDATION

Receive an update on the Recycled Water Maximization Study and provide input regarding the future expanded use of the City's recycled water supplies.

POLICY CONTEXT

As part of the 2021-23 Financial Plan the City Council approved funding to study the maximization of the City's use of its recycled water supplies. The 2022 Recycled Water Maximization Study provides opportunities for short-term and long-term expansion of recycled water supplies in alignment with the funding and direction provided by the City Council.

DISCUSSION

Background

Recycled water was first used in California in 1930 and is now widely utilized as an additional water supply by many medium and large water utilities. Historically, recycled water has been utilized for landscape irrigation to offset potable water use; however, recent changes to regulations and treatment technologies are providing a greater opportunity to utilize recycled water to augment drinking water supplies. As the City continues to mitigate climate change impacts and bolster its water security, staff have drafted the Recycled Water Maximization Study (2022 RWMS, Attachment A), which provides detailed information that will be critical in maximizing the use of the City's recycled water supplies. The 2022 RWMS supplements this staff report by providing background information on the City's recycled water program, explaining recent changes to recycled water availability, identifying short-term and long-term projects to maximize recycled water use, and identifying the legal risks, policy considerations, pricing strategies, and delivery constraints that must be considered if recycled water were to be delivered outside of City limits.

How to Use the 2022 RWMS

This staff report provides a summary of major discussion points of the 2022 RWMS. This staff report is intended to be supplemented by the 2022 RWMS, which contains additional detail related to long-term and short-term recycled water projects, as well as details about project costs, benefits, and challenges. Where possible, this staff report references the page numbers of the 2022 RWMS that contain additional detail about a specific topic of discussion.

Current City Use of Recycled Water

Traditionally, recycled water has been used in California for non-potable uses such as landscape irrigation, agricultural irrigation, environmental restoration, and construction use. Within the City, the established use of recycled water primarily goes toward landscape irrigation, utilization to supplement creek flow in San Luis Obispo Creek to support creek habitat, and for short term use at large construction sites for dust control, grading, and compaction. Recycled water is not used for agricultural irrigation within the City because agricultural operations have overlying groundwater rights which are less expensive than purchasing the City’s recycled water. The City’s recycled water supplies are not currently permitted to be utilized for groundwater recharge or surface water augmentation.

Expanded Uses of Recycled Water

Recent changes in regulations and technological capabilities have increased the potential uses for recycled water, which could substantially increase recycled water use in the future. In 2014 the State of California adopted groundwater recharge regulations, permitting the use of recycled water for recharge of groundwater basins for use

Short Term RW Uses as Non-Potable Water (2022-2030)
<ul style="list-style-type: none"> • Expansion of Inside-City Irrigation Use • In-City Agricultural Pumping Offset • Outside City Delivery for Agricultural Use

Long Term RW Uses as Potable Water (2030+)
<ul style="list-style-type: none"> • Groundwater Replenishment • Surface Water Augmentation

later as drinking water supplies. In 2018 the State adopted regulations permitting recycled water to be utilized to augment surface water reservoirs for future extraction and potable use.

Both expanded uses, often referred to collectively as Indirect Potable Reuse (IPR), require additional treatment beyond what is required of recycled water that is utilized for irrigation use. This expanded treatment, known as advanced treatment, is designed to ensure that recycled water is safe for human consumption when paired with an environmental buffer such as a surface water reservoir or groundwater basin. The City does not currently produce advanced treated recycled water; however, many of the technologies integrated into recent upgrades at the Water Resource Recovery Facility (WRRF) leave the City well positioned to treat recycled water to this standard in the future.

Long-Term Recycled Water Maximization Strategies

To date, the City is unable to completely utilize its recycled water supplies due to infrastructure limitations that restrict delivery, and due to the misalignment of periods when recycled water is produced versus when it is needed for irrigation use. In an effort to fully utilize its recycled water resources, the City's [2017 Recycled Water Master Plan \(RWMP\)](#) identified Indirect Potable Reuse as a feasible strategy to put recycled water to its highest and best use.

Following the adopted strategy to pursue potable reuse outlined in the 2017 RWMP, in 2022 the City contracted with Carrollo Engineering to identify the feasibility of implementing a groundwater recharge or surface water augmentation project. While currently in draft form, this plan examines the regulatory requirements and feasible construction timelines for implementation of indirect potable reuse projects. Importantly, this study documents that the City could have a project constructed and operational within eight years if it focused efforts on this expansion strategy. Knowing that there is a time period of at least eight years before the City can fully utilize recycled water as a drinking water supply, the 2022 RWMS identifies opportunities for short-term recycled water supply maximization until a potable reuse project is implemented in the City.

Short-Term Recycled Water Maximization Strategies

Until the City carries forward a project for groundwater recharge or surface water augmentation of recycled water, three primary opportunities exist for the short-term use of recycled water. These short-term uses vary in complexity, cost, and benefit to the City's water rate payer. Details of each project type are documented below.

1. Expansion of In-City Recycled Water Irrigation (2022 RWMS, Page 16)

This project would maintain the City's existing short-term expansion plan, focusing efforts on increasing the use of recycled water for irrigation of local parks, business parks, and residential common areas. The City is already permitted for this type of use of recycled water and has staff dedicated to fulfilling these duties. The City has made investments in installing delivery pipelines throughout the southern side of the City, allowing expansion of recycled water to new sites to be more cost-effective than it was during the early years of the recycled water program. Many sites that could be cost-effectively converted to use recycled water are identified within the 2017 RWMP.

2. Agricultural Offset within City's Area of Groundwater Basin (2022 RWMS, Pages 16-17)

While the SLO Valley Basin GSP largely focused on over-pumping in the Edna Valley Subarea of the groundwater basin, significant agricultural groundwater pumping is also conducted in the San Luis Subarea. From 2016-2019 agricultural pumping in the San Luis Subarea was approximately 1,370 acre-feet per year. Several agricultural operations in the subarea are adjacent to existing recycled water pipelines and can utilize recycled water with minimal infrastructure investment. This project would consider the delivery of recycled water to agricultural operations within the San Luis Valley Subarea in exchange for an equivalent reduction in groundwater pumping by these parties. This reduction in groundwater pumping by agricultural operations could free up water within the groundwater basin for expanded domestic use by the City.

3. Contractual Sale Outside of City Limits (2022 RWMS, Pages 17-27)

This project considers the short-term sale of the City's recycled water supplies outside of the City limits. With current City policy restricting the outside-City delivery of recycled water to use for agricultural irrigation, this project could include delivery to the Edna Valley, the Los Osos Valley, Cal Poly¹, or to agricultural areas within the San Luis Subarea, but outside of City limits, such as areas along Buckley Road, South Higuera, and Los Osos Valley Road.

Outside City Delivery Considerations

The delivery of recycled water outside of City limits has a variety of constraints, risks, and policy considerations that must be examined before entering into a delivery agreement. Pages 17-27 of the Recycled Water Maximization Study (Attachment A) provide a detailed analysis of these considerations, which should be reviewed in full. This staff report provides a cursory overview of some of these constraints, risks, and policy considerations that should be considered prior to delivering recycled water outside of City limits.

1. **Legal Considerations:** Most legal concerns related to the delivery of recycled water outside of City limits can be alleviated through a legal contract. However, legal counsel advised that the City should ensure that the delivery of recycled water outside of the City limits not result in the creation of habitat through the reestablishment of surface water/groundwater interconnectivity, especially in SGMA-regulated groundwater basins that are intending to utilize recycled water to raise groundwater levels in order to achieve SGMA compliance. The reestablishment of habitat resulting from recycled water offsetting groundwater pumping could result in the permanent loss of recycled water supplies through third party litigation requiring the City to perpetually maintain the established habitat.
2. **Outside City Delivery Limitations:** If entering into a contract to sell recycled water outside of City limits, receiving parties should be aware that the City will likely have reduced volumes of recycled water available in the future, as well as the seasonal constraints that will prohibit delivery during the summer months. It should also be considered at delivery outside of City limits is restricted by pipeline capacity, and in many cases not economically feasible to increase beyond existing capacity without significant capital expenditures. Potential may exist to deliver to multiple outside City customers in order to maximize recycled water use.
3. **Pricing/Cost Considerations:** If electing to sell recycled water outside of the City limits, special consideration must be made to compliance with Proposition 218. Proposition 218 ensures that a customer's water rates do not exceed their proportional share of the costs for delivery of water services, meaning that any contract for sale of recycled water outside of City limits could not adversely impact

¹ It should be noted that Cal Poly recently issued a Notice of Preparation (NOP) indicating the potential study of siting and building a Wastewater treatment Plant on the Cal Poly campus. If constructed, it is unknown how this facility would impact City wastewater flows (daily, monthly, yearly) and thus reduce the currently forecasted available recycled wastewater amount of 800 AFY.

the City's water rate payers. The 2022 RWMS provides three opportunities for pricing of recycled water that staff believe would ensure proposition 218 compliance. These three pricing options provide varying degrees of parity between inside City customers and outside City customers, accompanied by varying degrees of benefit to the City's water rate payers.

4. **Policy Considerations:** Outside City delivery of recycled water must comply with the City's General Plan policies. In summary, these policies would require that the City's recycled water only be delivered for agricultural use, that the water not be utilized to increase the development potential of the property being served, and that full costs for delivery are recovered. When considering the sale of recycled water outside of City limits, staff do not believe that the City's existing policies would permit delivery in areas around the City that are subject to the San Luis Obispo Valley Groundwater Sustainability Plan due to the fact that this water could be used to free up groundwater for additional development/growth. In order to gain compliance with requirements to not be growth inducing, policies would need to be adopted by the County of San Luis Obispo, and infrastructure installed to track groundwater pumping on a parcel-by-parcel basis and to restrict expansion of groundwater pumping within the overdrafted areas of San Luis Obispo Valley Groundwater Basin. Without this tracking and restriction, recycled water imported into the basin would free up groundwater that could subsequently be pumped and used for development or expansion.

STUDY SESSION FRAMEWORK FOR FEEDBACK TO STAFF

At this study session the City Council will receive a summary presentation of this report and the 2022 RWMS, provide an opportunity for input from the public, and provide questions and feedback to staff to guide the City's strategy on how to best utilize recycled water in the future. Below are a series of questions that the City Council may opt to use to guide this discussion.

Long Term Strategy: Groundwater Recharge Utilizing Recycled Water

1a. Does the City Council support the long-term strategy of utilizing recycled water to supplement the City's groundwater supplies, as identified in the City Council adopted 2017 RWMP?

1b. If not, please provide direction on alternative long-term maximization strategy.

Short Term Strategy (next eight years): Prioritization of Short-Term Projects

2. If yes to continuation of existing long-term strategy (1a), please prioritize options A, B, and C (below) for short-term recycled water maximization.

- A. Inside-City recycled water expansion for irrigation use (current strategy).
- B. Exchange recycled water for reduction in groundwater pumping in the City's subarea of the groundwater basin.
- C. Sell recycled water outside of City limits.
- D. A combination or all of the above.

Short Term Strategy Questions: Funding Requests

3. Would the City Council like to continue to expand recycled water irrigation within the City at historical funding levels²?
4. Would the City Council like staff to include funding for staffing resources, consultant services, and other new costs for new short-term strategies (B, C) in the 2023-25 Financial Plan?
5. If the City Council recommends requesting new budget in the 2023-25 Financial Plan to pursue outside-City sales of recycled water, what pricing strategy would the Council support for sale of surplus recycled supplies?³
 - D. Sale at existing in-City Rates (90% of potable price).
 - E. Variable increases, plus flat costs (electricity, chemicals, wear and tear on equipment, plus direct staffing and operating costs associated with outside-City delivery).
 - F. Proportional share of all recycled water expenses based on per acre-foot use, including sunk capital costs.

Previous Council or Advisory Body Action

On March 21, 2017, the City Council approved the 2017 RWMP which outlined the City’s expansion strategy for recycled water use, including plans to ultimately utilize recycled water as a potable water supply for the community.

Public Engagement

City staff have been in continued discussions with parties outside of City limits that are interested in short-term contractual sales of the City’s recycled water. These discussions largely took place during the drafting of the City’s Groundwater Sustainability Plan, as the Edna Valley Growers Mutual Water Company was pursuing recycled water to offset groundwater pumping for agricultural use. The City’s current strategy for existing recycled water supplies, as well as discussions on available short-term supplies was discussed at several public Groundwater Sustainability Commission (GSC) meetings between 2019 and 2021.

CONCURRENCE

The City’s Community Services Group (CSG) concur with the feasibility of the recycled water maximization options provided in this report.

² Recycled water expansion projects average around \$400,000 per year, or 1.6% of the City’s water fund budget.

³ Pricing strategies for outside-City recycled water sales can be reviewed in detail on pages 23-24 of the 2022 RWMS (Attachment A)

ENVIRONMENTAL REVIEW

Receiving an update and providing input regarding the opportunities to maximize recycled water use does not constitute a “Project” under State CEQA Guidelines Sec. 15378. Depending on the expansion strategies recommended by the City Council, CEQA may be required for future expansion projects. Projects will be analyzed on a case-by-case basis to determine environmental review requirements.

FISCAL IMPACT

Budgeted: Yes/No

Budget Year: 2021-23

Funding Identified: Yes/No

Fiscal Analysis:

Direction on recycled water maximization provided by the City Council does not in itself result in a fiscal impact. If direction is provided to examine additional short-term expansion projects, staff will return to the City Council with cost assumptions and funding requests to support such work as part of the 2023-25 Financial Plan.

ALTERNATIVES

The City Council could request that staff examine other alternatives for maximization of the City’s recycled water supplies. This action is not recommended, as staff believe that the proposed options are legal, feasible, and could be implemented in order to maximize the use of recycled water supplies.

ATTACHMENTS

A - 2022 Recycled Water Maximization Study