



STAFF REPORT

TO: TOM DUBOIS, CITY MANAGER
MEETING DATE: FEBRUARY 18, 2025
FROM: DAN LAFONTAINE, PUBLIC WORKS DIRECTOR
SUBJECT: WWTP PROJECT PLANNING UPDATE

Objective: The objective of this staff report is to provide an update to the current WWTP planning progress to the council.

Wastewater Treatment Plant Major Milestones Completed:

During the last year the City has made much progress in the planning of a new WWTP. During the last year the City has performed the following actions:

- Project report completed (Carollo) which outlines the background of the plant and a conceptual view of some alternatives. The report is of minimal use moving forward.
- Rate Study completed and new rates implemented in July 2025 raising out rates to be in line with current costs. Implemented savings for the new WWTP in the CIP.
- The financial borrowing power of the City has been determined. This will allow City staff and counsel to make a more informed decision on what scope of work we can afford.
- Grant sources identified through current grant consultant (California Consulting group). By adding to the scope of the new WWTP and adding energy conservation and water reuse, other grant funding opportunities have been identified.
- Capacity recapture of unused allocations through detailed analysis of several developments that did not occur. We have also identified enough capacity for the first phase of a new potential development (Gold Rush). The full project will require additional capacity.
- Working relationship with the City of Ione and CDCR to dispose of wastewater through ARSA. Last year we disposed of 250-acre feet and are starting the wet season with nearly empty reservoirs.

Treatment Education Background and Current Status:

A brief background of what the current WWTP does and its current limitations. WWTP's can be designed to remove primary, secondary or tertiary wastewater constituents. Primary treatment consists of removal of large and small particles from sewage (physical removal). Secondary treatment involves a biological process that further purifies wastewater (this is what our current plant accomplishes). This level of treatment can be land applied but cannot be sent directly to

rivers and lakes without some form of filtration. Tertiary treatment occurs after secondary and usually includes some form of filtration including dissolved nutrient removal (nitrogen and phosphorus) making it suitable for reuse (think recycled water).

Another area that needs to be discussed is the collection system upstream of the WWTP. The collection system piping is riddled with inflow and infiltration (I/I) that account for high peaking factors from normal dry weather flows. Every collection system experiences some form of I/I but studies have shown that peaking factors can be engineered out cost effectively down to 120 gallons per capita per day. At the current City of Sutter Creek population of 2,646 that would give us a daily influent flow of 0.32 MGD. Currently we experience peaking factors of 6 to 7 times normal flow (approximately 2 MGD at times of extreme weather). This is of concern because any new WWTP must be designed to peak flow factors yielding an oversized plant that requires much more capital outlay. This also yields large inefficiencies because large storms are essentially clean water due to dilution that must be accommodated through the WWTP as wastewater.

The City's master plan identified discharge into Sutter Creek as the preferred alternative based on cost. Staff is taking steps to create a new plant that will enable year-round creek discharge.

Current Status

To combat inefficiencies and reduce capital outlay we are attacking this problem from a few engineering perspectives. We have performed a few smoke tests throughout the town to combat inflow. This has led to numerous instances of easy fixes that we believe will reduce flows of rainwater into the collection system such as open cleanouts, direct connection roof drains, and any storm water cross connections. We also replaced the mains in Sutter Oaks which has already resulted in fewer emergency callouts and although it has only been a short time no spills. We are targeting basins by installing over 25 flow meters in the collection system basins to collect data from our largest offenders. This data is invaluable in determining where to spend our capital. We have identified over 6 priority projects to accomplish. These are mainly the top-known offenders for I/I and or emergency callouts. After we receive the flow meter data this season, we can determine the largest basin to attach in 2026.

At the WWTP we have done our best to minimize any capital outlays besides essential projects to either improve our ability to treat storm flows (roto-strainers) or improve reliability of treatment process (installing recirculation pumps to decouple hydraulic from organic loading). We have also completed an energy assessment and determined what our current load requirement is and how much that will increase due to producing higher quality effluent. This is a good baseline to determine what energy improvements we can implement and what cost savings can be achieved through capital outlay.

On the disposal side, the regional water quality control board has begun the process of updating the current waste discharge requirements (WDR) by requesting that all parties involved (ARSA, City of Ione, and CDCR) complete individual water balances and then one combined water balance. The regional water board has made some changes in what is allowed in terms of disposal, leaving the group with too much water and not enough disposal capacity. Initial comments from the individual water balances are that all parties will need to spend significant capital to obtain an approved combined disposal. Pertaining to ARSA, flood irrigation will not be allowed to continue so new spray fields will need to be investigated if ARSA decides to stay in the group. Along with

the capital required for proper land application the pipeline is very old and breaks frequently. The estimated costs to bring the ARSA pipeline and reservoirs (which are leased to ARSA and is owned by the State of California) up to reliable operation to \$40-50 million dollars.

Future issues and Challenges

As we look into the future of our WWTP planning, we are faced with the question of whether to build new or refurbish the existing plant. Although the refurbishment of the existing plant (no new treatment technology or level of treatment) is less costly there are some areas to consider.

Environmental/Regulatory challenges: The current permits are 30 years old and discussions with the water board indicated that the permits will be updated within the next few years for the treatment plant. ARSA is already being asked to produce a joint water balance as a precursor to a new WDR for disposal. Based on conversations with the water board, City staff believe that a new WDR will be issued following the ARSA permit update. Current regulatory trends indicate that nutrient removal regulations are becoming more stringent from the regional water boards. As the current plant does not address nitrogen removal (secondary treatment) new treatment technologies will need to be employed at that time. Even if nutrient removal is not addressed in this region, the new permits will require stricter process controls and additional sampling requirements. Most current WDR's have many more constituents to sample for than our current permit.

Disposal location and issues: Currently the WWTP discharges through the ARSA pipeline to the Castle Oaks golf course. In preparation for the individual water balance, ARSA has received comments that flood irrigation will no longer be approved disposal method. With one of our major spray fields using flood irrigation (Bowers Ranch), this greatly reduces our ability to dispose of all of our wastewater. To make matters worse, similar issues have been noted with the City of Ione and CDCR. Current individual water balances indicate that there is not enough disposal capacity and that does not consider any growth in the City of Sutter Creek or the City of Ione. Significant growth is occurring in the City of Ione. Wicklow Way in Martel may develop and the City of Sutter Creek may also have some growth. Maintaining even our current disposal is costly - the cost to identify and develop new spray fields for ARSA pipeline to dispose of the City of Sutter Creek wastewater alone are estimated at 5 million dollars (back in 2017). Even if a significant capital outlay is spent, the disposal is predicated on good working relationships with our regional partners. Historically this has been a significant issue for the City to maintain operations.

Costs: Although no one wants to spend money on a new WWTP, costs will never be cheaper than they were yesterday. Time is money. Spending money on City owned assets means the City is the sole decision maker in how to use those assets (unlike spending money on State owned assets, ARSA pipeline). Implementing new technologies also puts Sutter creek at the forefront of innovation and environmental stewardship which can allow the City to pursue grants that would not be available with upgrading old technology. We also have an opportunity with a new WWTP to take advantage of energy cost savings by bundling energy efficiency with the new WWTP planning. In addition to energy efficiency, the new WWTP will be equipped with a SCADA system that will allow more people to access alarms and correct problems reducing the amount of emergency callouts that add major unforeseen costs to our operating costs.

Self Determination: Perhaps the biggest reason to build a new plant, is self-determination. By building a plant able to discharge to the creek, the City will be in control of its future. This is a long-term asset, for the next 40-50 years, that will let Sutter Creek decide how it wants to evolve and grow as a city and as a regional wastewater facility.

Conclusions / Next Steps

This is a check-in with Council on where we are in the process. With Council's agreement, we will begin to communicate our intentions to partners and residents. This is a year's long process, that needs to be managed carefully. It is important that all of our constituents understand where we are heading and why in the next 5 – 8 years. It's also important that our partners understand we want to work with them in the immediate term. Done properly, this allows all parties involved to make smooth transitions.

In the coming weeks and months, the City will be entering into an agreement with HydroScience as the City's wastewater engineer (replacing Gary Ghio who is retired) and Owner representative in the design build process. We will be creating a roadmap of steps to achieving a better project. We will be working to characterize the influent and effluent of the current treatment plant and determine what treatment requirements will be needed to obtain proper discharge.

This is a multi-faceted decision. Based on all aspects of the situation, staff strongly supports the preferred alternative to move forward with the planning and design of a new tertiary treatment plant with year-round disposal into Sutter Creek with some reuse in the Gold Rush development.

Once we are ready, we will return council to approve a Request for Qualifications and a draft contract. Once those documents are in place we will publish the RFQ and select the most qualified firm. In parallel with these efforts, we will be pursuing additional funding options including specific grants and development fees. We expect the funding work to take 1 – 2 years while the design and regulatory work is underway.