



STAFF REPORT

TO: THE HONORABLE MAYOR AND MEMBERS OF THE CITY COUNCIL
MEETING DATE: JULY 20, 2026
FROM: TOM DUBOIS, BILL SLENTER, DAN LAFOTAINE
SUBJECT: WASTEWATER PLANT DESIGN UPDATE

RECOMMENDATION:

Council should accept this information report updating you on progress to date on the Design-build of the new wastewater treatment plant

BACKGROUND:

The Progressive Design-Build Team The project is being led by a collaborative team comprising City of Sutter Creek staff (including Tom Dubois, Dan Lafontaine, and Bill Slenter) and the Schneider Electric design-build team (led by Moses Bchara and Brian Pottenger). The extended engineering and advisory team includes:

- **Wallace Group:** Civil and process engineering (Bryan Childress, Nate Whitacre).
- **Avila & Associates:** FEMA floodplain modeling and hydraulics (Catherine Avila).
- **Montrose Environmental:** CEQA and environmental/cultural constraints (Debra Lilly).
- **Robertson-Bryan, Inc. (RBI):** Regional Water Quality Control Board (RWQCB) and NPDES permitting (Paul Bedore, Michelle Brown).
- **Cloacina & W.M. Lyles Co.:** Packaged MBR supplier and construction partner, respectively.

The project officially kicked off with an in-person meeting and site walk on November 4, 2025. Since then, the team has maintained a rigorous schedule of biweekly progress meetings to coordinate data collection, RFIs, decision-making, and design iterations.

Key stakeholder meetings included an internal planning session in January 2026 to strategize the City's exit from the Amador Regional Sanitation Authority (ARSA) system, and a March 16, 2026 workshop with the Regional Water Quality Control Board to discuss the new surface water discharge plans and permit coverage. In July 2026, the team reviewed Phase 1 (Scoping and Feasibility) and held a formal Review Meeting to discuss costs, findings, and the transition into Phase 2.

DISCUSSION:

Status of Regulatory and Design Challenges: The team has identified and is actively managing several major challenges:

- **Inflow & Infiltration (I&I):** The existing clay sewer pipes allow massive infiltration during the wet season. The team calculated a Peak Day Flow (PDF) of up to 3.44 MGD—a peaking factor of nearly 10 times the Average Dry Weather Flow (ADWF). Reviewers raised concerns about whether routing this volume through a Membrane Bioreactor (MBR) would wash out biological treatment, but the team determined that the membranes will capture the biology safely. The MBR peak flow capacity plus equalization basin volume is being sized to accommodate these peaks.
- **High BOD and Industrial Contributors:** The plant is experiencing spikes in Biochemical Oxygen Demand (BOD), suspected to be from local restaurants, grease discharges, or specific industrial contributors like Ramco. The City has deployed smart manhole covers and increased composite sampling to track down and mitigate these high-strength organic loads. The project has also highlighted the need for the City to strengthen its future industrial pretreatment and source-control program to identify and manage high-strength discharges, including elevated biochemical oxygen demand (BOD), so that major contributors do not adversely affect treatment performance, operating costs, or the capacity of the new wastewater treatment plant. The city and Schneider Electric team have performed site visits and investigations to different industrial and commercial discharges to understand how they discharge Wastewater to the city sewer system. In addition, to discuss the future requirements for discharge to the city system in order to keep it within manageable levels for the new Wastewater Treatment design.
- **FEMA Floodplain Restrictions:** Portions of the existing WWTP site are within or adjacent to mapped FEMA Zone A floodplain. Modeling confirmed that building a full floodwall around the site would raise the Water Surface Elevation (WSE) by over 3 feet, contrary to FEMA's "no-rise" criteria. The team pivoted to a strategic design that builds the new treatment plant into the hillside on the middle terrace, raises a small protective wall around the equalization pond, and removes an old pump building to let floodwaters pass safely.
- **Strict Creek Discharge Limits:** Obtaining an NPDES permit for year-round surface discharge to Sutter Creek comes with stringent limits. The biggest hurdles are temperature (the creek cannot be raised by more than 5°F; a cooling tower or similar mitigations may be needed) and trace metals like copper and zinc (which may require the team to perform specialized Water-Effect Ratio studies or implement other mitigations to avoid expensive compliance issues). The team has deployed sensors to collect creek temperature information for the past 6 months. Additional sampling and lab analysis is planned to better characterize these risks.
- **Outfall Construction Constraints:** Any construction of a new outfall below the Ordinary High-Water Mark (OHWM) of the creek will trigger a complex web of biological permits from the USACE, CDFW, and USFWS. The team is exploring repurposing an existing stormwater outfall to minimize this risk.

Summary of Phase 1 Deliverables Phase 1 successfully defined the project scope through several comprehensive technical memorandums (TMs):

- **Alternatives Analysis:** Evaluated four different site and technology combinations. The team decisively recommended a **Hybrid Packaged MBR (Cloacina MEMPAC-H) at the existing WWTP site**. This option balances cost, constructability, avoids the steep costs of piping to a new "Hilltop" site, and reduces visual/environmental impacts.
- **Engineering Basis of Design:** Established the sizing criteria, including repurposing the existing 1.1 million-gallon effluent pond into an influent equalization basin to absorb I&I surges, and avoid building a larger new pond. It also detailed structural retaining wall strategies and a phased electrical plan (including a new 2000A service) to keep the old plant running during construction.
- **Regulatory & Environmental Reports:** The team drafted the "Regionalization, Reclamation, Recycling, and Conservation" Memo to legally demonstrate to the Water Board that land-disposal and regional partnerships are no longer viable. Preliminary biological and cultural-resource assessments did not identify any apparent fatal flaws that would prevent the project from proceeding. The findings indicate that major impacts can likely be avoided or minimized through careful siting—particularly by avoiding work within Sutter Creek and other sensitive or jurisdictional areas—although additional field surveys, cultural-resource evaluation, tribal consultation, and formal CEQA and permitting review will be required as the design advances.
- **Capacity and Expandability:** The initial plant design is sized for incremental growth through the year 2051, supporting approximately 5000 residents. Capacity can be further expanded in the future by purchasing additional membranes. Modular expansion costs would be put on the developers of large projects to fund.

The proposed site location for the new wastewater treatment plant is the existing WWTP site, rather than an undeveloped "Hilltop" alternative located further north. Upgrading the existing footprint was chosen because it avoids the need for new land acquisition and significantly minimizes environmental disturbances, such as the removal of oak woodlands and the construction of new access roads and lengthy force mains. While the existing site presents tight, constrained hillside conditions that will require the construction of new retaining walls, it leverages existing infrastructure (like the outfall, main influent piping, and power supply routes) and is already partially screened from public view, which drastically reduces community and aesthetic impacts.

Because the lowest terrace is situated within the FEMA 100-year floodplain, the team developed a strategic layout to fit the new plant into this constrained footprint safely:

- **Upper Terrace:** The existing operations building and sludge dewatering equipment will be relocated to the upper terrace, completely above the flood zone.
- **Middle Terrace:** By excavating further into the hillside and constructing a new retaining wall, the middle terrace will be expanded to house the new MBR process tanks and membrane equipment skids.
- **Lower Terrace:** The existing 1.1 million-gallon effluent storage pond on the lower terrace will be lined, protected with raised perimeter floodwalls, and repurposed as an influent equalization basin to manage extreme wet-weather flow surges.

For the technology selection, the team evaluated both Hybrid Packaged Membrane Bioreactor (MBR) systems and fully Cast-in-Place Concrete MBR systems. The team ultimately selected the Hybrid Packaged MBR (Cloacina MEMPAC-H). This hybrid approach combines a cast-in-

place concrete process tank with a prefabricated, stainless steel membrane tank. It was chosen over the cast-in-place alternative (such as a Kubota system) for several key reasons:

- **Constructability and Schedule:** The Cloacina system is factory-assembled and tested off-site, which significantly reduces on-site construction duration, complexity, and implementation risk.
- **Vendor Support:** Cloacina offers strong, local vendor support with a California headquarters and dozens of established, Title 22-permitted reference installations throughout the state. By contrast, the membrane system used in the cast-in-place alternative lacked recent operating California installations under current regulations.
- **Operations and Maintenance (O&M):** The packaged system provides a proven treatment process with integrated controls from a single vendor, simplifying operations and maintenance for the City's staff.
- **Cost and Value:** Although the initial equipment and materials cost for the packaged Cloacina system is higher than cast-in-place concrete, the reduction in construction time and on-site labor offsets these costs, making it the most favorable balance of cost, risk, and operability.

Background on Cloacina: Cloacina is a manufacturer of "revolutionary package wastewater treatment systems" with its corporate headquarters located locally in Arroyo Grande, California.

- **Product Offerings:** Their core product line focuses on modular and scalable treatment solutions, including Municipal Membrane Bio-Reactors, Industrial Membrane Bio-Reactors, Expandable Membrane Bioreactors, and Scalping Plants.
- **Experience and Support:** Their California headquarters allows them to provide strong, reliable local vendor support. They have a highly proven track record within the state, boasting dozens of recent Title 22-permitted reference installations—a stark contrast to the evaluated competitor, which lacked recent California installations. Their featured project portfolio includes successfully deployed systems for community developments, coastal community services districts (CSDs), and casino resorts.

Handling the High I/I Challenge:

The proposed Membrane Bioreactor (MBR) system will handle peak wet-weather inflow and infiltration (I&I) surges through a combination of high-capacity membrane treatment and high-volume influent equalization.

Here is how the system is designed to manage these extreme flow events:

1. Repurposing the Existing Pond for Equalization: Because the plant experiences I&I surges during winter storms, the design heavily relies on equalization to attenuate these spikes. The existing 1.1 million-gallon effluent storage pond, located on the lower terrace, will be lined, protected by floodwalls, and repurposed into an influent equalization (EQ) basin.

2. The Overflow Mechanism During a wet-weather surge, raw wastewater will flow through the new coarse screens and into the influent lift station. If the incoming flow exceeds the maximum

capacity of the lift station pumps, the excess wastewater will automatically overflow into the 1.1 million-gallon EQ basin to be temporarily stored.

3. High Peak Day Flow (PDF): Capacity of the MBR The Cloacina Hybrid Packaged MBR is designed with a substantial Peak Day Flow (PDF) capacity—up to 2.99 million gallons per day—which it can sustain for a 24-hour period. This capacity is based on the hydraulic limits and maximum flux specified by the membrane manufacturer. The engineering team modeled extreme multi-day storm events (such as the historically wet January 2023) and verified that the MBR's processing speed is high enough to safely draw down the EQ basin and maintain necessary freeboard during back-to-back storms.

4. Post-Surge Processing: Once the high-flow storm event subsides, the water stored in the EQ basin is gradually conveyed back into the influent lift station via a dedicated drain connection at the bottom of the basin. The MBR system will then treat this stored water during drier periods, effectively absorbing the shock of the storm without washing out the critical biological treatment processes.

NEXT STEPS - PHASE 2

As the project transitions into Phase 2A (30% Design), which will run from August 2026 through March 2027, the focus is heavily shifting toward affordability and final scope lock-in.

Completing Phase 1 - We have provided comments and feedback to Schneider Electric for incorporation prior to completing the Phase 1 Deliverables. We have promised the Water Board a follow-up meeting demonstrating our progress, which will be scheduled in the next couple of months.

Grants, Financing, and Solar/Battery Decisions

Now that we have more clearly defined the plants and verified approaches for any regulatory hurdles, we have the information needed to apply for grant funding. A preliminary Class 4 (the roughest level) cost estimate priced the WWTP improvements between a minimum of \$42 million, up to \$61M for all add-ons. To control costs, the team will perform Value Engineering, potentially stripping the project down to strictly "tertiary quality and needed infrastructure" and evaluating if the MBR trains can be phased based on funding availability.

Because the City noted that \$42M may not be feasible through traditional means alone, the team is shifting to aggressively pursue funding. The primary target is submitting a WaterSmart Grant by the end of August 2026, alongside applications for the State Revolving Fund (SRF) for low-interest loans and principal forgiveness.

Regarding the energy improvements, Self-Generation Incentive Program (SGIP) funds were approved for the maximum amount of \$530,000 for the Battery Energy Storage System (BESS). The City Council is expected to review the information report in July, with a followup discussion on Aug 3 (or August 17 backup) decision to execute the Solar and Battery contract amendment.

The City of Sutter Creek is working with Ridgeline Municipal Strategies, a registered municipal advisor, to develop a comprehensive financial plan to fund the WWTP and energy improvements. Ridgeline specializes in assisting California public agencies and previously helped the City of San Juan Bautista successfully fund a new plant by piecing together multiple smaller grants.

Here is a summary of the collaborative efforts with Ridgeline to date:

Financial Model and Debt Capacity The project faces a significant funding gap: the total project cost is estimated between \$42 million and \$60 million, but the City's current debt capacity is capped at a maximum of \$25 million. Because traditional ratepayer funding will not be enough, Dmitry from Ridgeline is working closely with the team (Tom, Moses and Mason) to fine-tune the financial model, analyze cash flow, and develop the Capital Improvement Plan (CIP) to integrate outside funding.

Federal and State Earmarks Ridgeline has outlined a proactive strategy to pursue both state and federal earmarks, citing past successes. Ridgeline advises "chunking" the funding requests, such as specifically asking for design funding rather than the whole project cost at once. They also emphasized the importance of securing letters of support and holding in-person meetings with state representatives.

State Revolving Fund (SRF) SRF funding is a primary focus for Ridgeline's strategy. Because Sutter Creek qualifies as a small rural community, the City is positioned to access "cheap money" through low-interest SRF loans and potential principal forgiveness. Ridgeline has advised submitting a strong general application as soon as possible and is also eyeing upcoming Proposition 4 (California Green Infrastructure) funds, though those may move slowly.

USDA Funding Along with the SRF, Ridgeline views USDA programs as a core consulting target because they offer grant money and favorable 40-year loan terms. However, the broader project team has noted that USDA funding can be a "nightmare" due to highly restrictive engineering requirements, such as requiring the WWTP infrastructure to survive a 500-year flood event.

Growth: Some additional development with contributions to the new plant and connection fees will also help with funding. Currently, both the Gold Rush Ranch Specific Plan and the Wicklow Way specific plan identify the Sutter Creek WWTP as providing wastewater services. Expanding our customer base will help the overall financial picture.

Additional Financing Avenues Evaluated Ridgeline and the team are actively weighing several other options to round out the financial model:

- **WaterSmart Grants:** The team considers this the most realistic near-term grant opportunity, and Tom and Moses are working with grant writers to submit an application by the end of August 2026.
- **WIFIA Loans:** Ridgeline discussed WIFIA as a way to fund half the project to match with SRF. While WIFIA offers patient, interest-only terms for the first 7-8 years, Ridgeline noted it comes with high fees and the program is currently heavily backlogged with pending applications.
- **Bonds and CDBG:** Ridgeline noted that issuing municipal bonds might be the easiest route with the fewest strings attached, offering similar rates to WIFIA and the iBank.

Dmitry is also looking into Community Development Block Grants (CDBG) through a contact who successfully used them for San Juan Bautista.:

- **Ratepayer Study Update:** The team will need to update the City's ratepayer study. However, because the community's ratepayers are already near their financial limits, the updated study is not expected to raise rates significantly. This constraint strongly reinforces why Ridgeline is focusing so heavily on outside funding (like SRF, WaterSmart, and USDA) to bridge the gap between the City's maximum \$25 million debt capacity and the \$42–\$61 million total project cost.
- **Federal Earmarks (Representative Schiff):** In alignment with Ridgeline's strategy to pursue federal earmarks by "chunking" the requests—specifically asking for design and planning funds early on—the project has successfully been placed on Representative Schiff's list for a planning earmark.

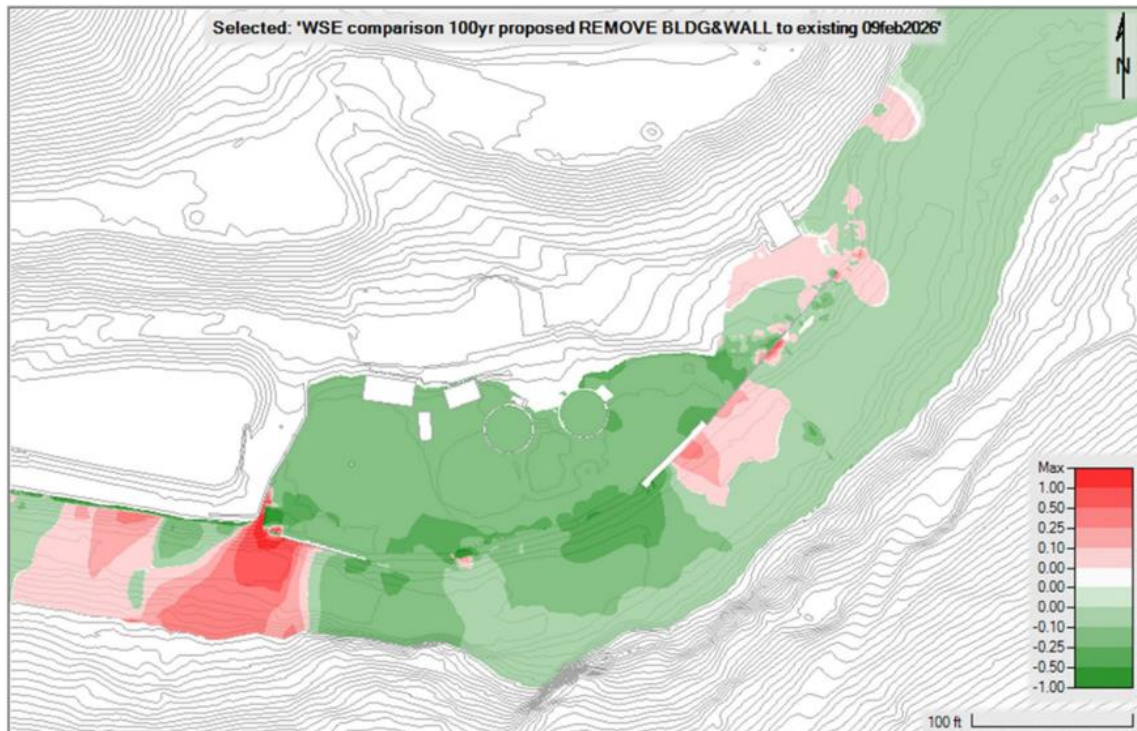
ATTACHMENTS:

- A. New Plant Site Layout
- B. New Floodplain Model
- C. Potential Flood Wall
- D. City Influent Sampling Data

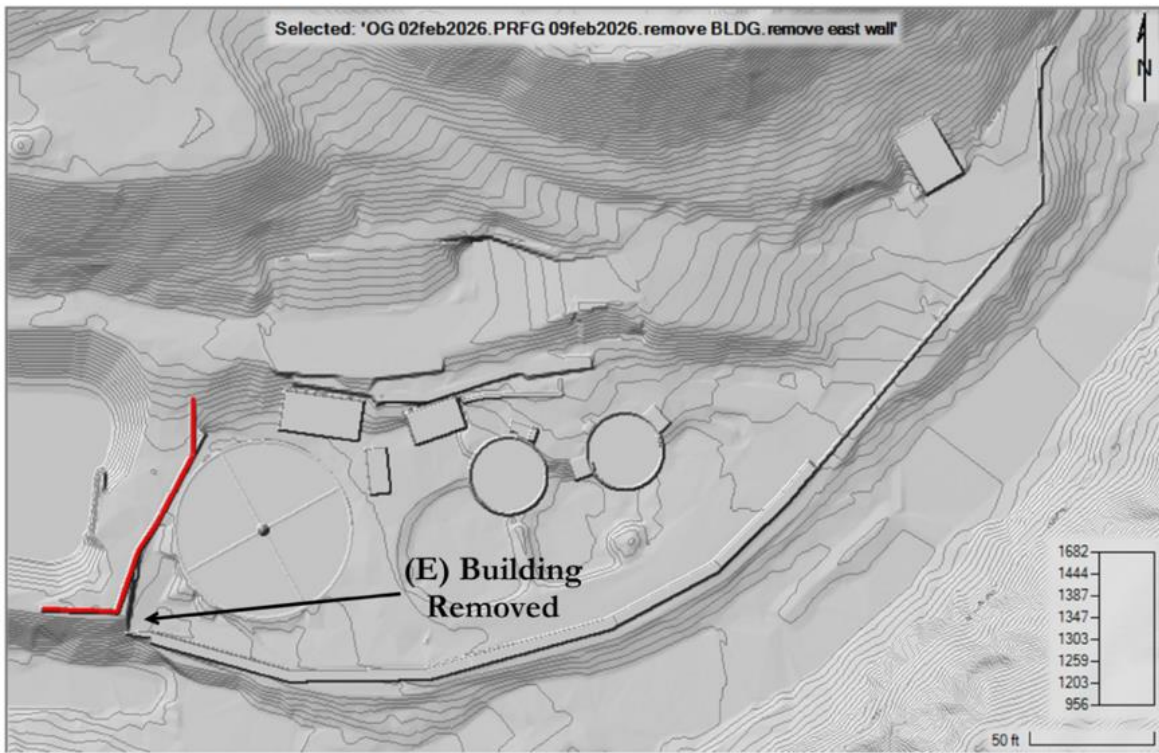
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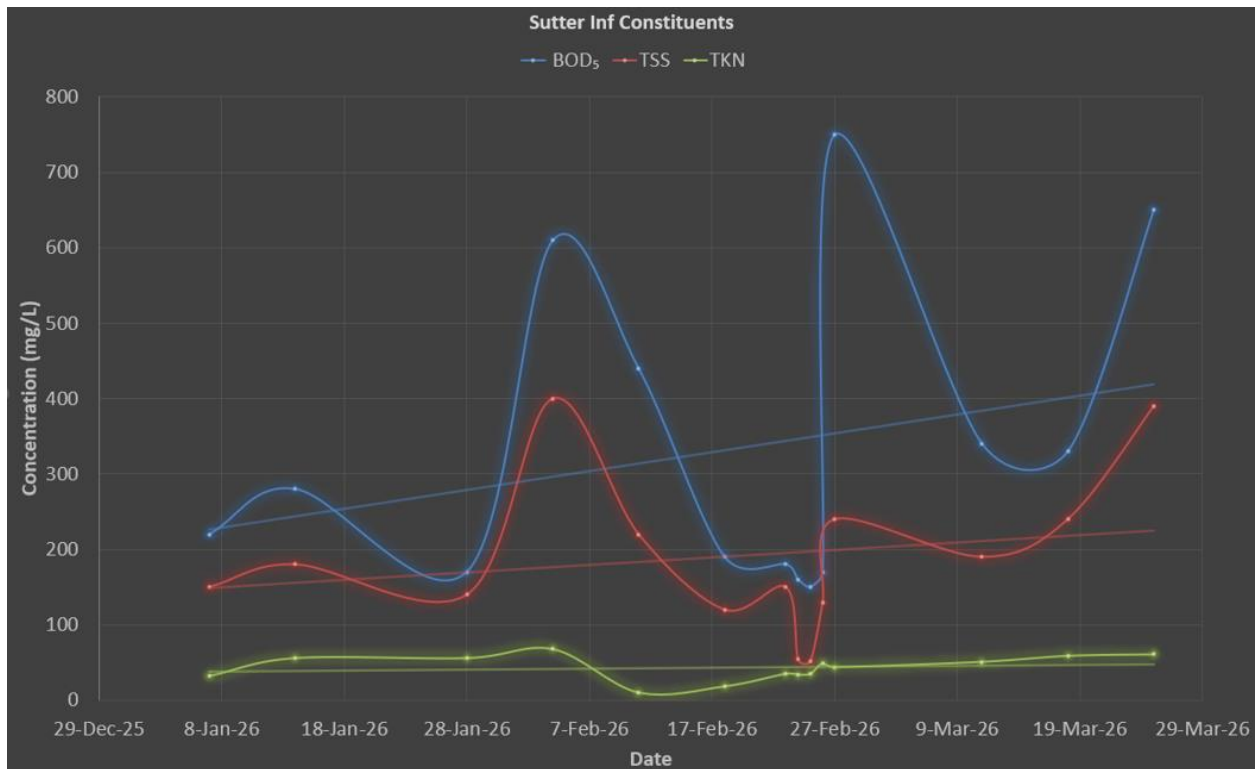
Attachment A - Site Layout



Attachment B - New Floodplain Model



Attachment C - Potential Flood Wall



Attachment E - City Influent Sampling Data