

MURFEE ENGINEERING COMPANY, INC.

Texas Registered Firm No. F-353
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M E M O R A N D U M

DATE: APRIL 16, 2024
TO: BOARD OF DIRECTORS – REUNION RANCH WCID
FROM: MARK KESTNER PE
RE: ENGINEERS REPORT
CC: BILL FLICKINGER – WILLATT & FLICKINGER

Legend

New Comments

Comments New Last Report

a. Wastewater Collection and Treatment Plant

i. Wastewater Flows and Trends

- Attached is an updated figure tracking wastewater flows to the existing WWTP vs. projections and permit milestones.
- This figure includes calculated wastewater flow values produced per household.

ii. Improvements

- The drop chute has completed installation and final payment is expected next month. MEC has requests a final payment application from the contractor so that the project can be closed out.
- **MEC is coordinating with Inframark on an invoice received from the vendor to determine if the invoice was supposed to be the final payment request and submitted to Inframark as an invoice in error.**

iii. Operational Issues

1. Effluent Quality has been in accordance with Plant Permits this year.
2. INFLOW AND INFILTRATION
 - MEC is coordinating with Inframark to evaluate to what extent I/I is present in the system.
 - **MEC is coordinating with Inframark to examine trending wastewater flows and water flows.**
3. BAR SCREEN
 - The bar screen repair appears to be working and screenings are being produced.
 - MEC recommends outreach to the community to discourage flushing items that have the potential to produce “ragging” incidents at the plant.

- MEC recommends moving forward with Inframark’s proposal to fabricate a new screen.
4. Texas Land Application Permit (TLAP)
 - MEC is submitting an application with a 10-year renewal period rather than the current 5-year renewal period as the system has been completely built out.
 - TLAP was completed and submitted. Comments were received and responded to on 11/15/23.
 - The Public Notice has been posted for Public Comment
 - **Technical Comments were received from TCEQ and a Response has been submitted 4/10/24.**
- iv. Wastewater Plant Efficiency Plan
 1. A plan for increased efficiencies at the Wastewater treatment Plant (WWTP) is being prepared. This plan includes proposed efficiency updates in the form of cost reduction in the areas of operation, power, and equipment replacement/decommissioning. It is anticipated that the draft plan will be reviewed by the appropriate committees prior to presentation to the board review.
 2. The plan is envisioned to be comprised of smaller projects targeting specific areas of improved efficiencies and be coordinated with HOA activities.
 3. **A draft application for Bond Surplus funds will be submitted to the board following coordination with accounting and legal advisors.**
 4. **The Application for Surplus Funds and Expedited Review have both been approved and the funds are available to the district.**
 5. **Proposals from 2 vendors have been received, the thirds is expected prior to the board meeting, the proposals are being reviewed and revised as appropriate.**
- b. Water Supply and Distribution System
 - i) Water Flows and Trends
 - Charts showing the historic and current water use, both total and per connection, by the community are attached.
 - ii) LCRA Contract – Current Reservation
 - iii) Lead and Copper Rule Revision (LCRR)
 - 1) The RRWCID lead and copper rule responsibilities including the system inventory has begun.
 - 2) Inventory is due Oct 16th, 2024.
 - 3) The inventory is complete, and the inventory will be submitted to TCEQ prior the deadline in Oct, 2024.
 - iv) Water Conservation Plan
 - v) Drought Contingency Plan

- 1) LCRA is in the process of amending its Drought Contingency Plan, this would require the District to amend it's own Drought Contingency Plan.
- 2) **The major amendment adopted at the LCRA Feb 21st meeting would include restricting watering to once a week and financial penalties would serve as the enforcement method. Fines of up to \$10,000 will be enforced against firm contract holders who do not implement a policy coinciding with the LCRA.**
- 3) **A revised Drought Contingency Plan incorporating the changes from LCRA has been prepared for the board's review and consideration of adoption.**

c. Long-Term Improvements and Asset Management Plan – 2024 Budget

- i) Several items were included in the budget for this year, a table of the projects is attached to this report.
- ii) Budgets will be updated on a Quarterly Basis to account for inflation/prevaling cost adjustment.

d. Emergency Management Plan(s)

- Wastewater System Emergency Response Plan

Detailed disaster responses are being developed incorporating input from the committee.

e. Stormwater and Water Quality System

- No ongoing projects or updates.

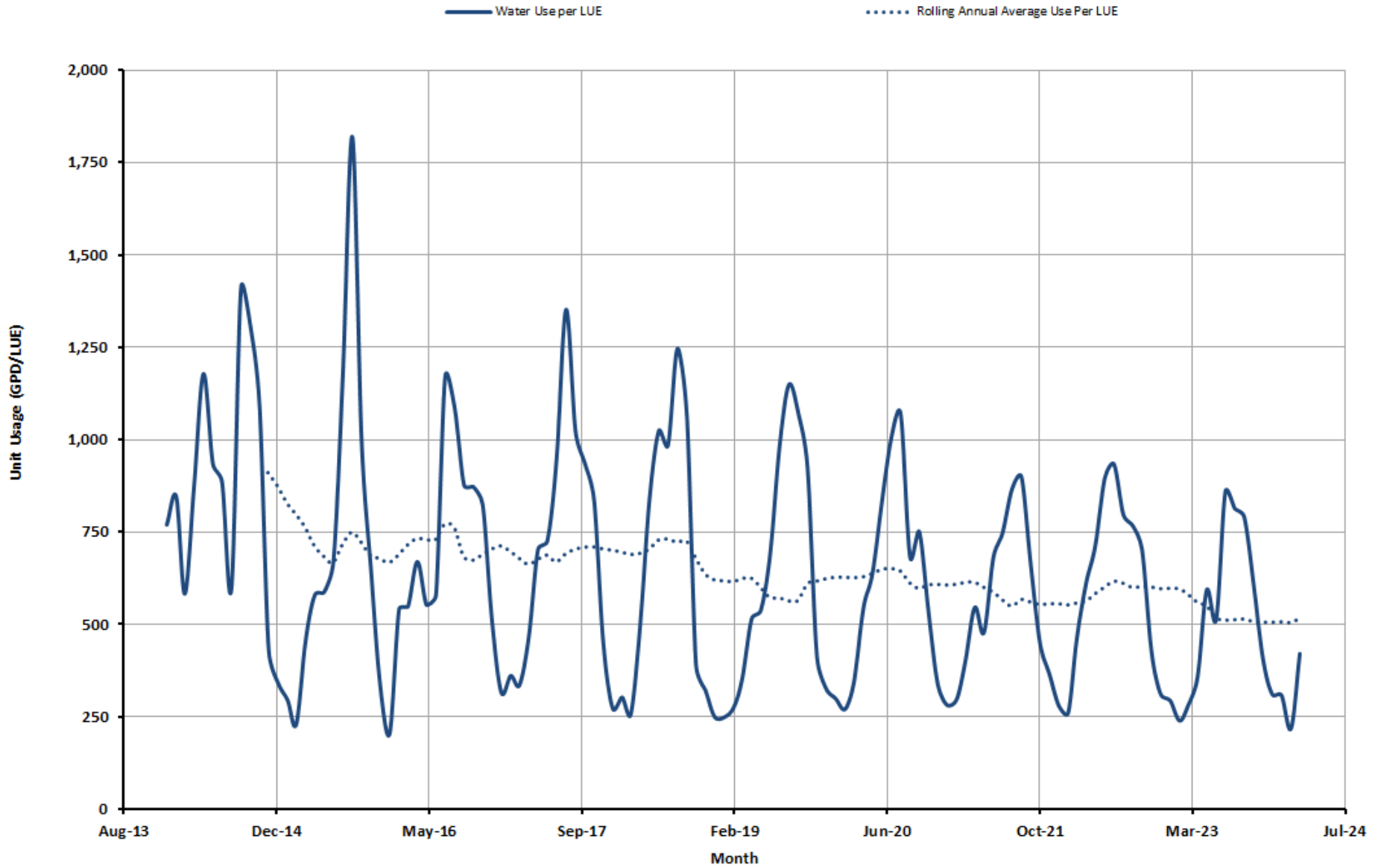
f. Approvals Related to Ongoing Construction Contracts

- Currently there are no approvals for Board Consideration

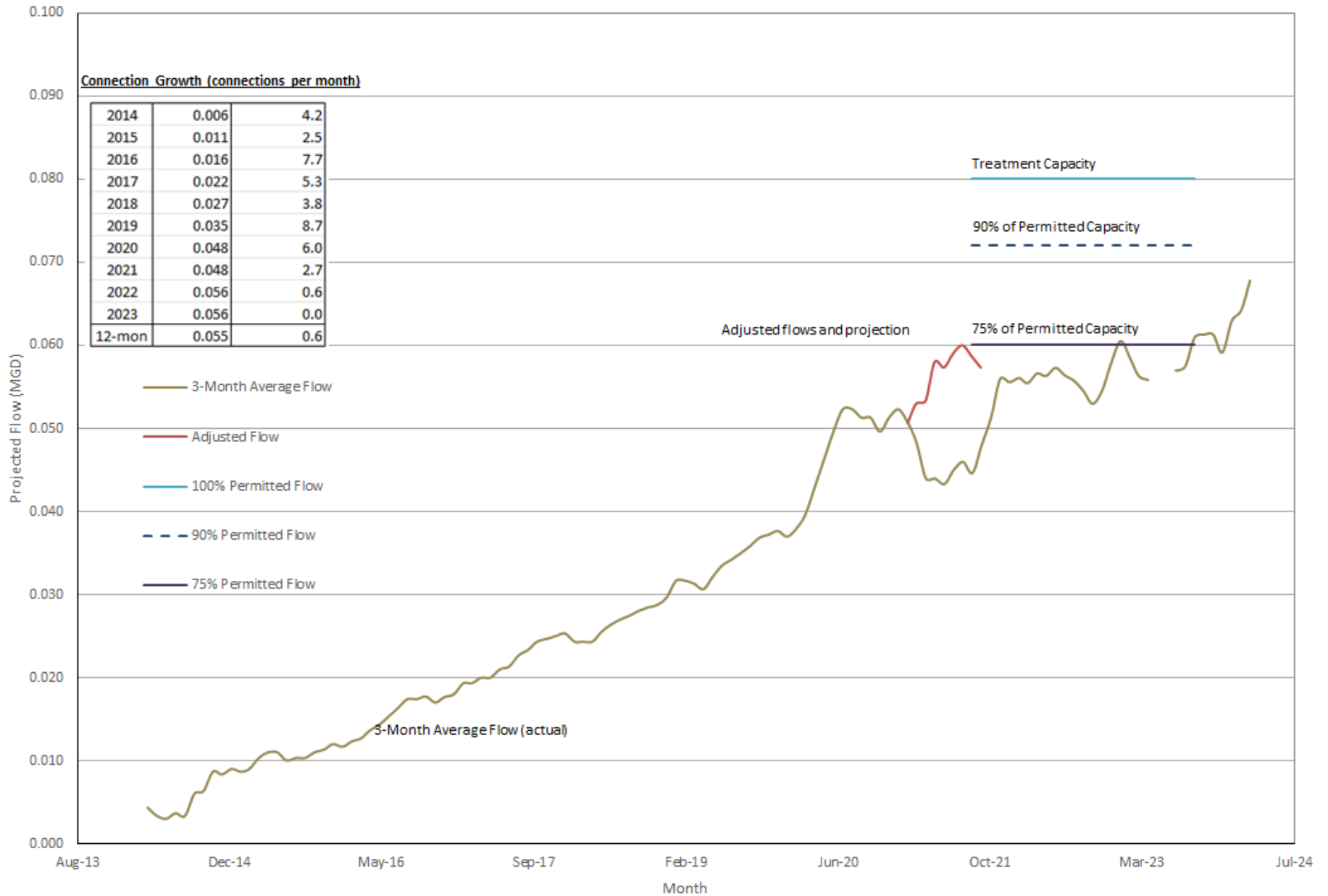
g. Approvals Related to Upcoming Construction Contracts

- Currently there are no approvals for Board Consideration

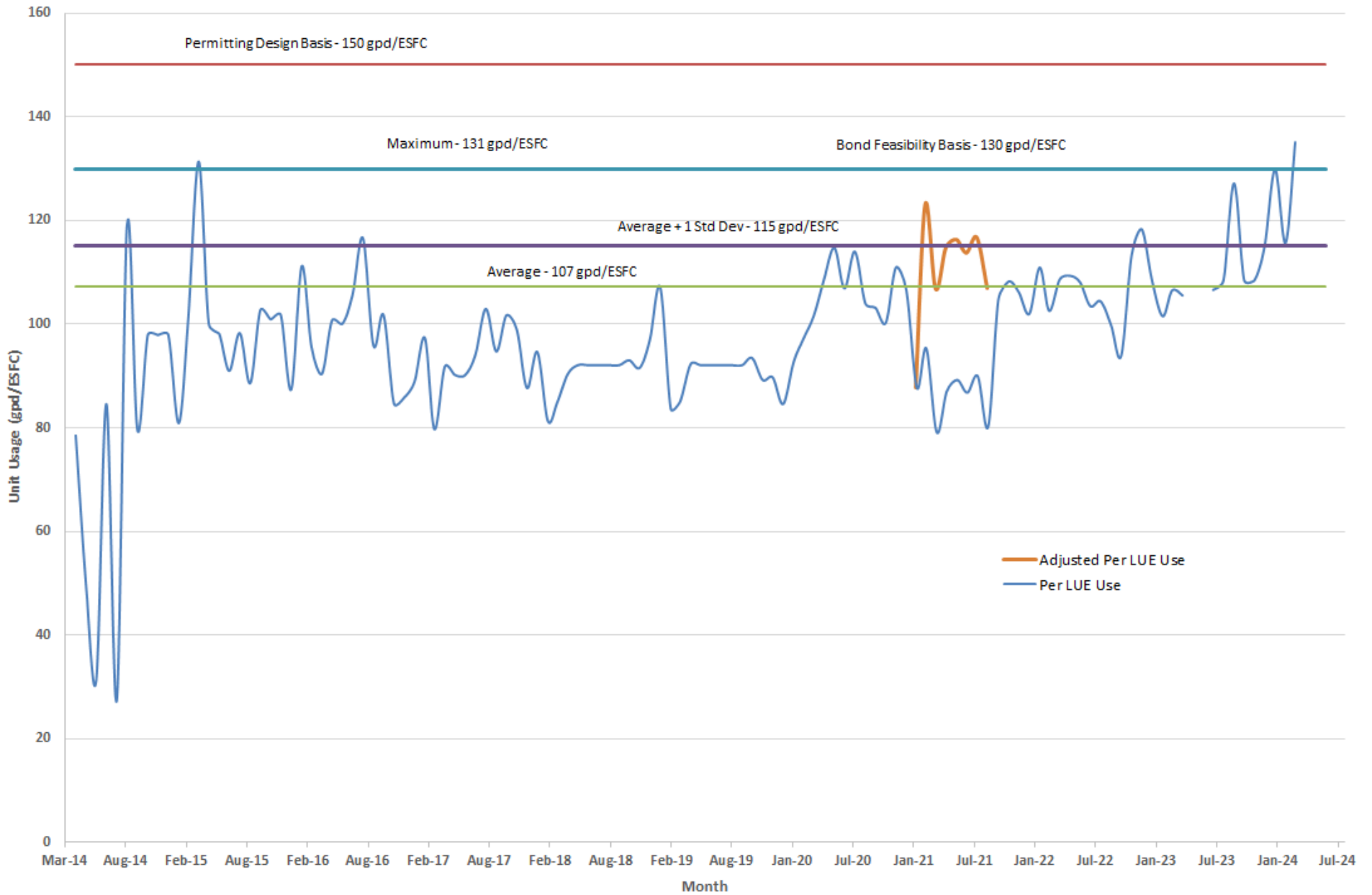
Reunion Ranch WCID Per LUE Water Use Trends



Reunion Ranch WCID Wastewater Flow Projections

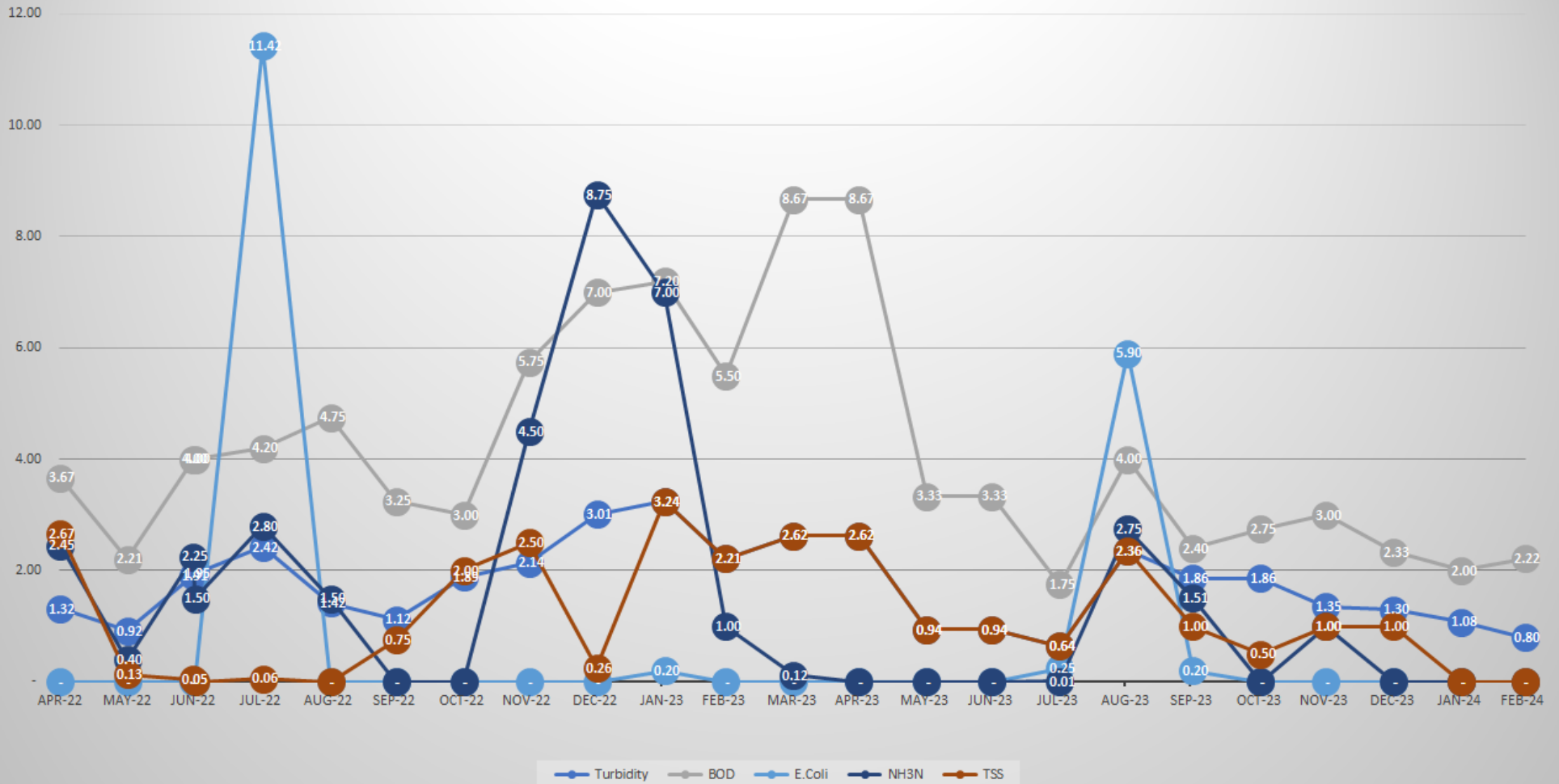


Reunion Ranch WCID WWTP Unit Usage Analysis



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EFFLUENT COMPOSITE CHART



Project	Tracking Number	Description	Original Budget	Revised Budget	Contract Cost	Cost to Date	Final Cost	Estimated Start	Estimated Completion	Final Completion Date	Additional Notes
Main Line Valve Maintenance		Locate and clean/exercise valves	\$2,000.00					Jan-23	Jul-23		Needs to be done FY23
Effluent Lift Station (Filter Feed Pumps) Pump Replacement		Replace the submersible pumps that are not operating according to their design point	\$50,000.00					Jan-23	Jul-23		Note, potential additional upgrades in the future, \$50K;
Storage shed at WWTP		Install a shed to store spare parts at the WWTP, storage on site was significantly reduced because of the WWTP Exp	\$5,000.00					Jan-24	Jul-24		Request from Inframark - delayed until FY24
Replace Hypchlorite Tank at WWTP		Replace the existing hypochlorite tank at the WWTP with a 500 gallon tank	\$5,000.00					Jan-24	Jul-24		Request from Inframark - DELAY - BUDGET USED FOR DRIP SKID REPAIRS
Wastewater Treatment Plant Efficiency Upgrades Phase 1		Purchase of Irrigation Pump Skid	\$105,000.00	\$125,000.00				Apr-24	Jul-23		This Phase will allow the Board to Shorten the equipment lead time for the irrigation of common areas within the HOA.
Wastewater Treatment Plant Efficiency Upgrades Phase 2		Install piping and valving to allow use of irrigation pump for HOA irrigation uses	\$105,000.00	\$150,000.00				Jul-24	Aug-24		This Phase will allow for the irrigation of common areas within the HOA.
Wastewater Treatment Plant Efficiency Upgrades Phase 3		Install piping and valving to allow use of irrigation pump for drip field use	\$0.00	\$35,000.00				Sep-24	Jan-25		This stage of the plan will allow for redundancy in the effluent disposal system and the effluent tank filling processes within the plant.
Wastewater Treatment Plant Efficiency Upgrades Phase 4		SCADA intigration of pump skid and appertenances	\$20,000.00	\$35,000.00				Feb-25	Mar-25		This stage of the plan will allow automated use of the irrigation and drip fields and remote sensing of conditions and errors.
Wastewater Treatment Plant Efficiency Upgrades Phase 5		Decommision Drip Field Pump Skid	\$0.00	\$10,000.00				May-25	Jun-25		This Phase of the plan allows for the removal of the maintainance and power costs assciated with this equipment

* The Efficiency upgrades are the evolution of the 2021 Irrigation Pump Skid Project initial
 The Original budget of \$230,000 has been proportion to the 3 phases that incorporate the scope of the original project.