PROJECT REPORT

HAWAII ENGINEERING SERVICES

LIHUE PUHI | SCREW BLOWERS | 2024

Problem

The existing blower system consisted of three aging units (two 50 HP blowers and one 25 HP blower) that had reached the point where replacement was necessary. Aging aeration equipment can lead to:

- Increasing maintenance costs
- Higher electrical consumption
- Reduced process reliability
- Increased equipment noise
- Greater risk of unplanned downtime

Because blower systems are essential to biological wastewater treatment, the replacement solution needed to provide continuous operation even during maintenance or high-flow conditions.

Solution: Kaeser Screw Blowers



Hawaii Engineering Services supplied two Kaeser variable-speed positive displacement screw blowers designed specifically for municipal wastewater treatment applications. The Kaeser system was selected because it delivers:

- Variable-speed operation that automatically matches changing oxygen demand
- High operating efficiency
- Factory-integrated packages ready for installation
- Long-term mechanical reliability
- Simplified startup and maintenance

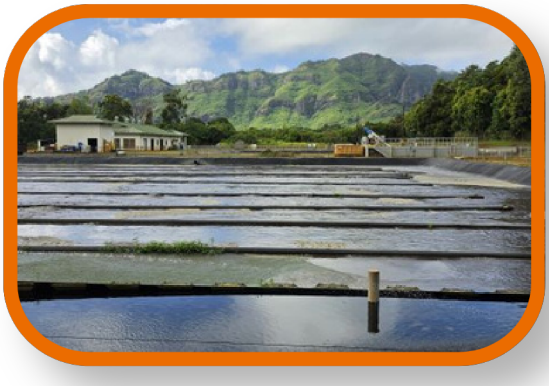
The project was designed with full-capacity redundancy, ensuring uninterrupted wastewater treatment during maintenance events or periods of elevated influent flow.

Conclusion

Following installation, Aqua Engineers observed several measurable operational improvements:

- Higher operating efficiency
- Lower energy consumption
- Reduced equipment noise
- Reliable wastewater treatment performance
- Improved operational confidence through redundant blower capacity

The project demonstrates how replacing aging aeration equipment with modern variable-speed screw blowers can produce immediate operational benefits while lowering long-term lifecycle costs.



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