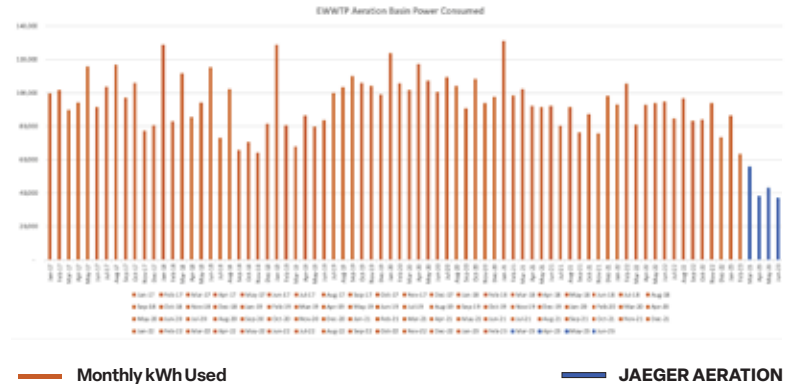




## Energy Savings (Farmington MO)

Farmington MO is a classic upgrade from the mechanical aeration to the retrievable OxyStrip OxyLift design. The energy consumption was confirmed by a dedicated power meter and monthly monitoring. The graph to the right shows that the long-term power consumption of 80,000 - 90,000 kWh/month which we reduced to < 40,000 kWh/month. Saving over \$6000/month.



### OBJECTIVES

- Levels for Future Permits
- Lower O&M Costs for a TN and TP
- Increase Equipment Reliability and Lower Maintenance Costs
- Increase DO Levels in Aeration Basin

### PERFORMANCE

Ammonia	< 0.5 ppm
TN	<5.0 ppm
TP	<1.0 ppm

### PRODUCTS USED

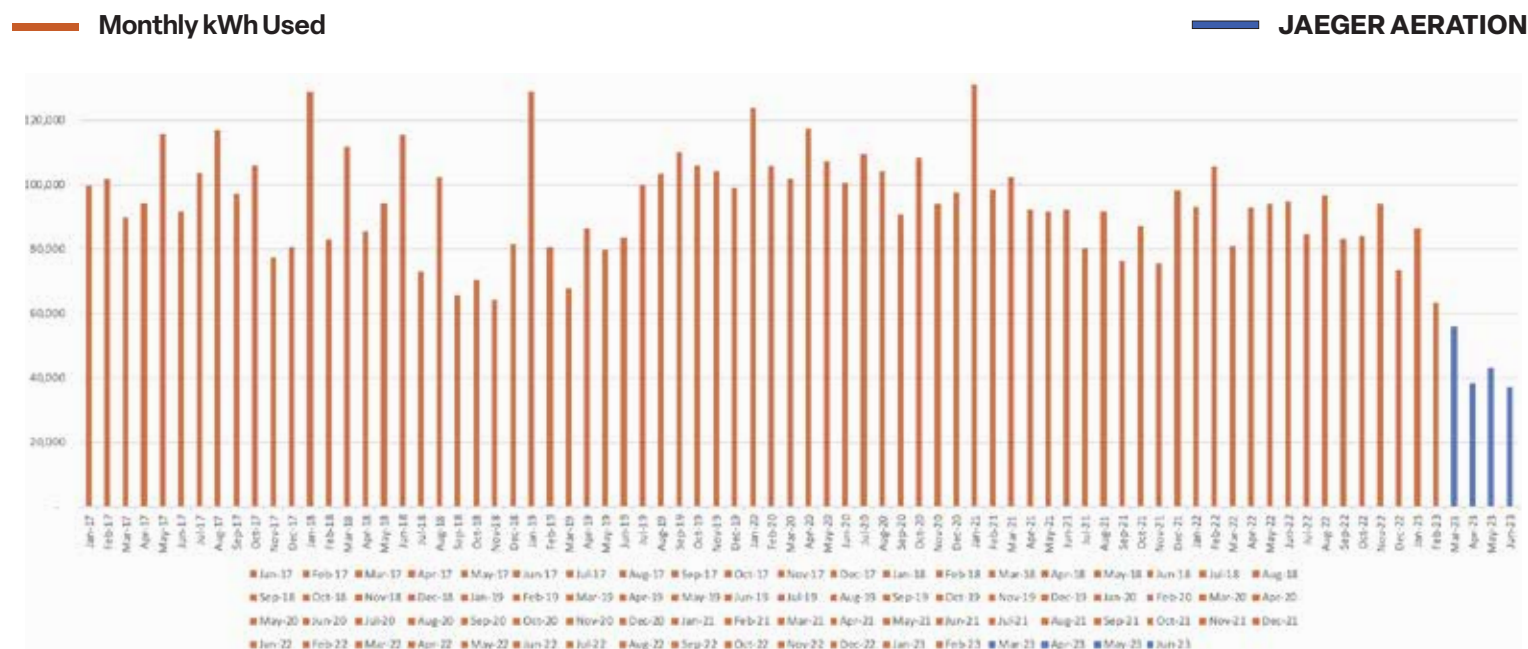
- Strip Diffuser
- OxyLift Racks
- OxyProcess Design Cyclic Aeration
- OxyMix with KSB Mixers

### SUMMARY

The previous aerators were designed to provide the on/off aeration design. However, were unable to achieve a consistent nitrification. Low DO in the oxidation ditch was the normal operation ignoring diurnal loading.

The OxyLift OxyStrip design was based on expected loading and awareness of the AOR required. Blowers are controlled with VFD to match incoming loading throughout the day.

# Farmington East WWTP Power Consumption



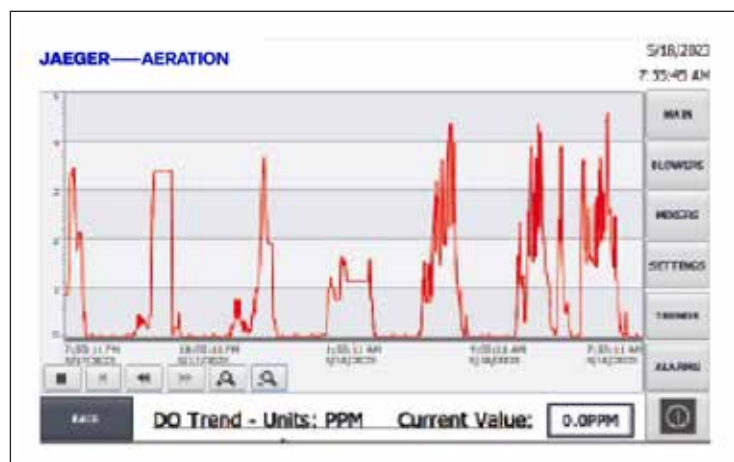
Mechanical failures every other year adjusted power consumption as illustrated above in kWh consumed. The kWh/mo power use is 80,000 - 90,000 kWh/mo. After our upgrade, we are using <40,000 kWh/mo.

SAVING AFTER THE UPGRADE PER MONTH:

Cost Savings \$6,000

CO<sub>2</sub> Reduction 21.6 metric tons

Coal Usage 24,290 pounds



12 hrs DO Trend (7PM - 7AM)

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