

PROJECT EXPERIENCE

CLIENT

Land O'Lakes

LOCATION

Tulare, California

APPLICATION

Butter, Milk Processing

CAPACITY

3.6 MGD

YEAR COMMISSIONED

2015



Land O'Lakes in Tulare, CA operates a major milk processing facility that produces butter, cream and other milk based products. The wastewater is characterized as being high in Fats, Oils, and Grease (FOG), Biological Oxygen Demand (BOD) and having wide fluctuations in pH, Electrical Conductivity (EC) and flows through-out the production and CIP cycles of the plant. Land O'Lakes discharges to the City of Tulare POTW and was having a hard time achieving compliance for pH and EC. They contacted TPS to help them design and construct a treatment facility to maintain compliance. Land O'Lakes had specific requirements that needed to be incorporated into the design:

1. The system needed to be robust and consistently achieve effluent compliance with respect to pH and EC. It needed to be sized such that the majority of the pH neutralization came about via self neutralization, thereby minimizing the amount of chemicals used.
2. The facility operates 24/7 and Land O'Lakes operations and maintenance personnel required that the design incorporate redundancy such that any single critical component could be taken down for repair or maintenance while still providing treatment.
3. The system was required to be easily expanded in the future to allow for FOG and BOD treatment.
4. Land O'Lakes required a fully automated system with very minimal operator attention.

The system consists of a 25,000 gallon below ground concrete collection pit with dual 2,500 GPM stainless steel submersible pumps, (2) 240,000 gallon equalization tanks each with (2) submersible mixers installed, (2) 2,500 GPM Chopper Pumps, a 40,000 gallon pH trim tank, acid and alkali chemical feed systems, an odor control system, and a containerized E-house for all of the motor control gear.



TPS provided the following Engineering Services to Land O'Lakes:

- Data analysis and Process Modeling used to determine system configuration
- Selection and specification of all process equipment and instruments
- Development of Plans & Specs used for Construction including: P&IDs, Civil, Mechanical, Structural, and Electrical Drawings
- Preparation of Request for Quotation and Bidding Documents
- Conducted pre-bid meeting with contractors and responded to RFIs
- Perform Bid tabulation and evaluation per Land O'Lakes criteria
- Permitting support with the local authorities
- Start-up Commissioning
- Training of the Land O'Lakes Operations & Maintenance staff