

## SYSTEM CASE STUDY: Darling Industries – Tennessee



### FAST FACTS

#### **Project:**

- ✓ bioFAS™ MBBR System for Rendering Facility

#### **Industry:**

- ✓ Food & Beverage

#### **Application:**

- ✓ Biochemical Oxygen Demand (BOD) Removal
- ✓ Nitrification of Ammonia

### **bioFAS™ MBBR System**

#### **Benefits/Highlights:**

- ◆ Efficient reduction of BOD
- ◆ Effectively nitrifies ammonia
- ◆ Ideal for high and varying loads
- ◆ Cost-effective
- ◆ Compact footprint & modular
- ◆ Easy to operate & maintain

#### **Problem:**

The Rendering Facility had experienced a failure of a Rotating Biological Contactor (RBC) system and as a result, the existing treatment lagoons were unable to reduce total nitrogen concentrations to meet the Discharge Permit Limits.

#### **Solution:**

bioprocessH2O was selected to provide a bioFAS™ Moving Bed Biofilm Reactor (MBBR) System equipment package to retrofit and upgrade the existing RBC basins into a two-stage bioFAS™ MBBR process for the reduction of BOD and nitrification of ammonia. Nitrate is returned to the lagoons for denitrification (nitrogen removal).

#### **Status/Results:**

The bioFAS™ MBBR System effectively reduces BOD and nitrifies ammonia and exceeds the effluent discharge criteria.

#### **System Design Criteria:**

Parameter	Phase 1: Influent	Effluent
Wastewater Flow	30,000 GPD	30,000 GPD
BOD	400 mg/L	<30 mg/L
TSS	<100 mg/L	NA
Ammonia	200 mg/L	<18 mg/L

**Contact bioprocessH2O today!**

