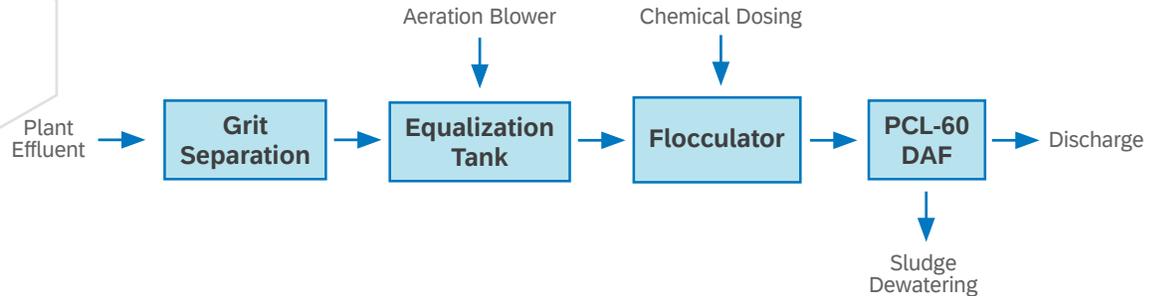


WASTEWATER SOLUTION

Crab & Shrimp Processing



The seafood processing plant receives and processes Dungeness Crab directly from Grays Harbor in Westport, Washington. The facility produces whole cooked crabs, crab sections, fry legs, and crab meat. They are also the largest processor of Pacific cold-water shrimp in the world.

Plant wastewater is generated during raw product washing, evisceration, cooking, cooling and general production floor sanitation. The water consists of gritty and oily materials which contribute to elevated levels of TSS and COD.

The wastewater pre-treatment system consists of preliminary grit separation and equalization, followed by chemical treatment in a pipe flocculator. A plate-pack style dissolved air flotation system separates the floating solids and discharges effluent that meets the water quality requirements.



	Design Parameters	Discharge Requirements
Flow	865,000 GPD	
TSS	2000 mg/L	< 100 mg/L
COD	3000 mg/L	< 1000 mg/L
pH	4 - 9	6.5 - 7.5

Equipment Supplied

30k gallon Aerated EQ Tank
 Chemical Dosing Equipment
 F-8 Flocculator
 PCL-60 DAF System
 Electrical Control Panel

DAF Sizing Calculations

Hydraulic Surface Loading Rate

$$\begin{aligned}
 &= \frac{\text{Feed Flow} + \text{Recycle Flow in gpm}}{\text{Effective Surface Area in sqft}} \\
 &= \frac{600 + 130 \text{ gpm}}{\text{x sqft}} = 1 \text{ gpm/sqft} \\
 &= 730 \text{ sqft required}
 \end{aligned}$$

Solids Loading Rate

$$\begin{aligned}
 &= \frac{\text{Weight of TSS in feed in lbs/hr}}{\text{Free Surface Area in sqft}} \\
 &= \frac{600 \text{ lbs/hr}}{\text{x sqft}} = 7.5 \text{ lbs/sqft/hr} \\
 &= 80 \text{ sqft required}
 \end{aligned}$$