

Biological Nutrient Removal

Session 6

FREE Zoom—Training Session

Describes efforts to control nutrients and the biological processes for removing both nitrogen (N) and phosphorus (P).

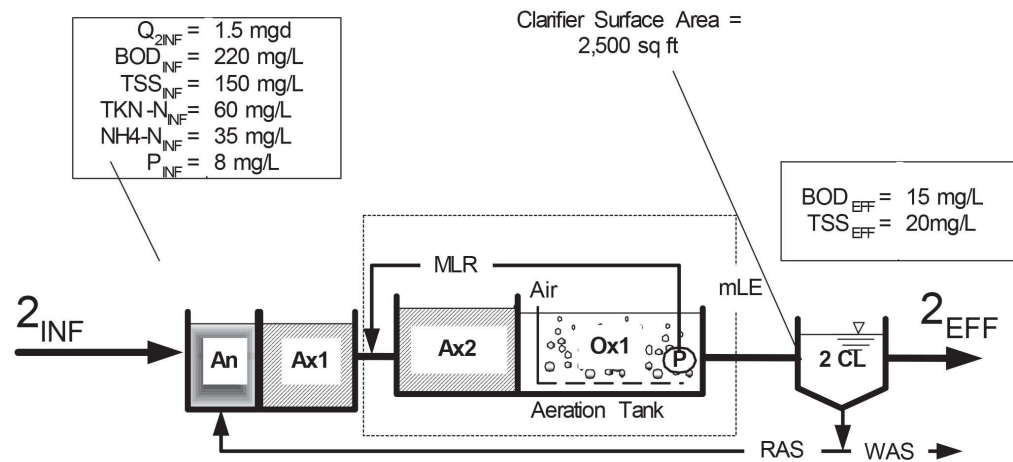
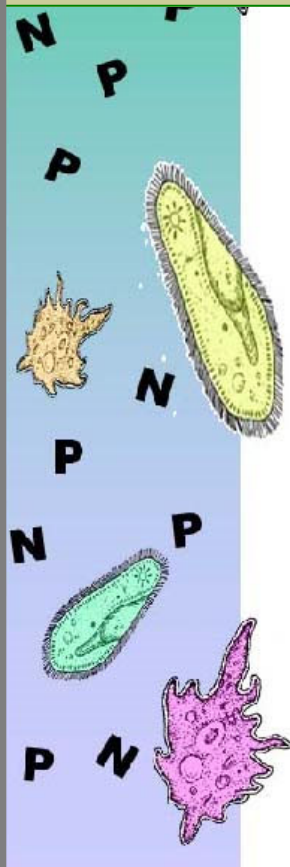
Includes: Process modifications and control schemes for removing nutrients. Case histories for BNR presented.

Attendees will learn the impact of nutrients (nitrogen-N and phosphorus-P) on the environment and on human health. Common biological processes for removing nitrogen and phosphorus will be described. Factors that affect the ability to accomplish nutrient removal will be covered such as water temperature, alkalinity and wastewater characteristics. Case histories of successful nutrient removal will be presented. Methods of coping with floating solids and foam that often occur with nutrient removal will be discussed.

Answer these Example Questions:

1. What are the environmental and health concerns associated with nutrients?
2. How can existing systems be modified to remove N and P?
3. What are the effects of nutrient removal on oxygen demand, pH and solids characteristics?
4. What affects the ability to nitrify, denitrify and remove P biochemically?
5. Calculate critical loading for nutrient removal based on temperature and discharge limits in your area.

Example Slide: Compartmentalized Aeration Basin for BioP Removal



| Reactor Volume | Gallons |
|----------------|---------|
| V_{An} | 35,000 |
| V_{An1} | 35,000 |
| V_{An2} | 55,000 |
| V_{Ox1} | 375,000 |
| V_{Total} | 500,000 |