

Mazzei Injector Corporation AirJection System

Oxygen Transfer Requirement Calculation

Customer:

Project:

Purpose For Aeration:

Process (SBR, Lagoon etc.):

The following information is needed for design of an aeration system for an Activated Sludge Wastewater Treatment Process. Please try to provide as much of the information as possible.

Design Parameters

Average Design Flow, ADF	m ³ /day	
Influent Loading, @ ADF, BOD5	mg/l	
Total Kjedahl Nitrogen, TKN	mg/l	
Peak Flow, PF	MGD	
Influent Loading, @ PF, BOD5	mg/l	
Total Kjedahl Nitrogen, TKN	mg/l	
Effluent Loading, BOD5	mg/l	
Total Kjedahl Nitrogen, TKN	mg/l	

Aeration Basin Dimensions

Aeration Basin Volume	m ³	
Aeration Basin Water Depth	m	
Aeration Basin Length/Width	m	
Aeration Basin Slope of Sides		

Process Operating Parameters

Mixed Liquor Volatile Suspended Solids (MLVSS)	mg/l	
Food/Microorganism Ratio	Kg/Kg	
Sludge Yield, Y, VSS/BOD5	Kg/Kg	
Specific Decay Rate, Kd	Kg/day	
Design MCRT (Sludge Age)	Days	
Denitrification Credit Claimed?	Yes/No	
Water Temperature	C	
Operating Dissolved Oxygen	mg/l	
Available Aeration Time	hr/day	
Beta		
Alpha		
Site Elevation	m	

Reference: Wastewater Engineering, Metcalf & Eddy, Third Edition