



Aeration & Mixing Design Report

000 Test Project - Do Not Overwrite

Design# 169819

Option: Preliminary design for Anoxic Basin



Aeration & Mixing:

Anoxic Basin



Designed By: Chuck Konkol



Anoxic Basin DESIGN SUMMARY

BASIN INFLUENT CONDITIONS

Type of basin and size

Volume	0.59 MG
Elevation	5 ft
Power Volume	30
Basin Type	Circular
Diameter	100 ft
Water Depth	10 ft

Process/Site Notes



Anoxic Basin DESIGN SUMMARY

DESIGN CALCULATIONS

POWER REQUIREMENT

A mixing level of approximately 30 HP/MG is recommended to provide complete mix conditions.

$$\begin{aligned} \text{Power (mixing)} &= 30 \text{ HP/MG} \times 0.59 \text{ MG} \\ &= 17.7 \text{ HP} \end{aligned}$$



Anoxic Basin DESIGN SUMMARY

DEPTH CHECK

Prior to recommending a given aerator and/or mixer based on aeration and mixing requirements alone, we evaluate the suitability of the selected unit(s) for the given basin depth, basin material, and basin surface area. A given basin may require a higher quantity of lower-horsepower units and/or special accessories designed to protect the basin.

Each Aqua-Jet Aerator and AquaDDM Mixer has an allowable water depth range as well as a required water surface area. A shallow basin may require smaller units and/or anti-erosion assemblies. A deeper basin may require draft tubes. Freeze protection may be required for operation in cold climates.



Anoxic Basin DESIGN SUMMARY

RECOMMENDED EQUIPMENT

In order to recommend equipment, we have evaluated the quantity of oxygen required for aeration and mixing of the given basin.

User-entered recommended equipment quantities and types to provide required minimum horsepower. Also note recommended accessories and other specials such as voltage.

Quantity	Equipment	Yes / No
2	Aqua-Jet Aerators	Yes
0	AquaDDM Mixers	No
0	OxyStar Aerators	No

Quantity	Accessories	Yes / No
0	Anti-erosion Assemblies	No
2	Draft Tubes	Yes
2	LTD Assemblies	Yes
2	Arctic Pak	Yes
0	Aqua-Jet II Contained	No
0	Flow Aerator	No