CASE STUDY

MUNICIPAL – WASTEWATER TREATMENT

PROJECT DESCRIPTION

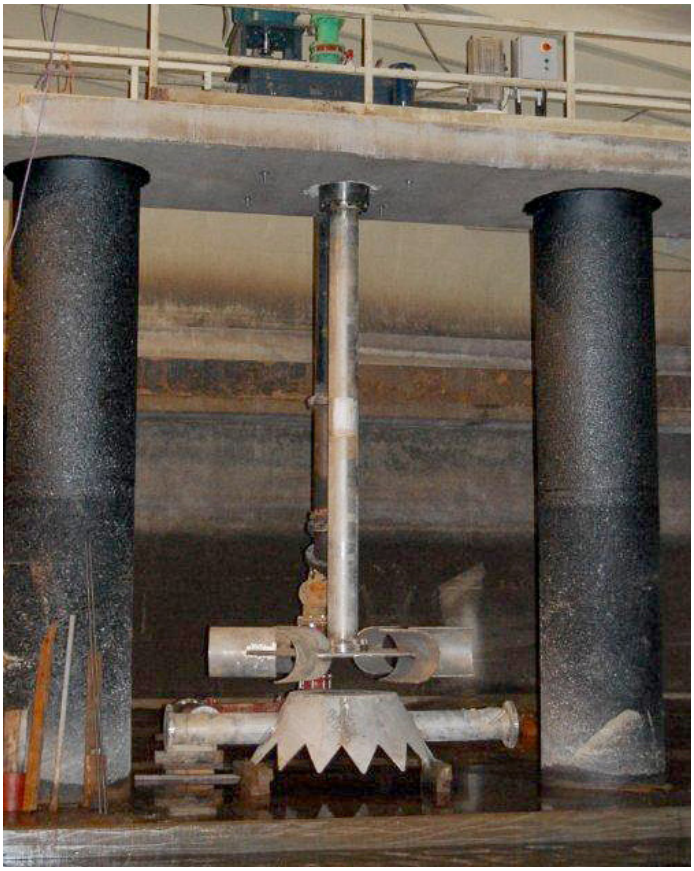
Sewage is treated to remove all the solids and reduce the biological oxygen demand prior to its release into the environment. This particular plant had been in operation for many years and had expanded as the resort city, which the system supported, grew in size.

Six large aeration basins are aerated and agitated to reduce the biological oxygen demand prior to clarification and further treatment.

MIXPRO® CHALLENGE

The existing Lightnin agitators had a single A-315 impeller and their recommended four-point sparger. The air-flow needed to achieve their processing goals caused geysers to appear at the liquid surface, often splashing high enough to wet the walkway with partially treated sewage.

Furthermore the four-point sparger had a significant pressure drop (which ensures equal air distribution to the four points in the sparger). However, this pressure drop made it difficult for the operators to correctly deliver the required volumes of air throughout the plant and increase the energy needed to operator the compressors.



RECOMMENDED SOLUTION

We discussed air dispersion and oxygen transfer with the customer and their engineering consultants. Then oxygen transfer test-work was conducted at the sewage plant in two different size basins using their existing agitators. We could now confidently determine the size of the agitators required and recommend the air-flow rate needed to meet the planned expansion. Ultimately we supplied four replacement agitators using FALK speed reducers, a large gas-dispersing Smith Impeller (MP-6605) and a low-pressure-drop air sparger for each.

PROJECT SUCCESS

The replacement agitators were able to reduce both the power consumption at the compressors and the oxygen transfer requirements for the process. Consequently the walkway is no longer wet with sewage.

FOR MORE INFORMATION CONTACT:

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