

RESEARCH, FABRICATION AND APPLICATION OF FLOWFORMS FOR IMPROVING WATER QUALITY AND CREATING ECOLOGICALLY FRIENDLY LANDSCAPES OF POLLUTED URBAN LAKES OF HANOI CITY

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Abstract

From the end of the 20th century, with the basic concept of simulating the morphology of water movement in living bodies, the flowforms have been studied and applied in many wastewater treatment projects worldwide. Recently, in Vietnam, the application of flowforms in wastewater treatment has also received attention due to the trend of development of pollution treatment systems, which are environmentally friendly and blend-into-landscape. Basically, the use of flowforms is one of the natural aeration methods. Comparing to conventional natural aeration and forced aeration methods, flowforms have some key advantages: high efficiency of oxygen diffusion from the air to water streams by creation of rhythmic flow which consequently increases the dissolved oxygen concentration and improves organic matters oxidation and the nitrification process (that latest is the premise for denitrification to occur later); low costs of energy and operation; non-chemicals use; friendliness to environment; easy blending into the landscape which helps enhancing urban appearance. Based on the above view, the research aims at study and assessment of aeration ability by flowform systems for improving quality of urban contaminated lakes water. This also is one of the measures to enhance the self-purification capacity of urban lakes.

Key words: Flowforms, urban lakes, aeration, cascades, DO.