VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590010

PROJECT REPORT ON

"A FEASIBILITY STUDY ON CONSTRUCTED WETLANDS FOR TREATMENT OF DOMESTIC WASTEWATER AT AIET CAMPUS"

Submitted in partial fulfillment of the requirements for the award of degree

BACHELOR OF ENGINEERING
IN
CIVIL ENGINEERING
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DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE

Certified that the project work entitled "A FEASIBILITY STUDT ON CONSTRUCTED WETLANDS FOR TREATMENT OF DOMESTIC WASTE WATER AT AIET CAMPUS" is a bona fide work carried out by,

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in partial fulfilment for the award of BACHELOR OF ENGINEERING in CIVIL ENGINEERING of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2019–2020. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

The constructed wetlands have evolved into a reliable wastewater treatment technology for various types of wastewater. The classification of constructed wetlands is based on: the vegetation type (emergent, submerged, floating leaved, free-floating); hydrology (free water surface and subsurface flow); and subsurface flow wetlands can be further classified according to the flow direction (vertical or horizontal). In order to achieve better treatment performance, namely for nitrogen, various types of constructed wetlands could be combined into hybrid systems.

Natural wetlands are being considered beneficial for food and habitat for wildlife, water quality improvement and shoreline erosion control. However during Past few decades it has been observed that the planned use of wetlands for meeting wastewater treatment and water quality objectives has been seriously studied and implemented in a controlled manner. Constructed wetland system (CWS) for wastewater treatment have been proven to be effective, low cost and sustainable alternative for conventional wastewater treatment technologies. The removal of pollutants in these systems relies on a combination of physical, chemical and biological processes that naturally occur in wetlands and are associated with vegetation, sediment and their microbial communities.

Keywords: Wetlands, plant uptake, chemical degradation, plant species, dissolved oxygen.