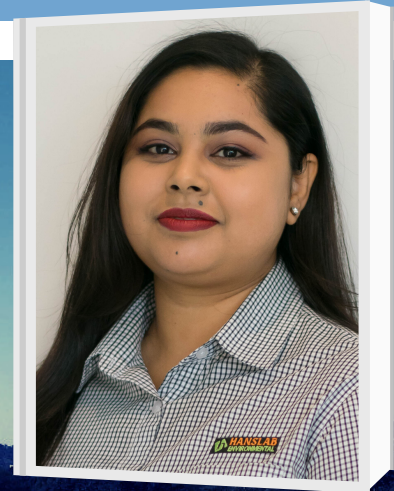


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# JOZINI WWTW

uMkhanyakude District Municipality initiates the construction of a Wastewater Treatment Works in Jozini.

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## INTRODUCTION:

In the last few years South Africans have been under the assumption that the country's water quality is one of the safest in the world. However, recent research has indicated otherwise. Since then an urgent appeal from Department of Water and Sanitation has been made to Municipalities to resolve all water and wastewater issues. KwaZulu-Natal has specifically been under pressure to improve and upgrade their wastewater treatment works facilities. This is carried out using improved technology that will be sustainable and lower the impact to the environment by limiting pollution into water resources (Department of Water Affairs, 2009). This was an urgent appeal from the Department of Water & Sanitation to ensure safe and clean services are provided to all while in keeping with the National Water Act (Act 36 of 1998), hereafter referred to as the Act.

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## HANSLAB'S INVOLVEMENT:

Hanslab Environmental Consultants were honoured to be a part of the team working on the project. The representatives of Hanslab, Jashmika Maharaj (Environmental Assessment Practitioner) and Justin Kumkurren (Environmental Control Officer) have played integral roles in the project thus far, including liaison with the public and government officials. Umkhonto Professional Services (UPS) were appointed for the Assessment, Design and Construction of the Jozini Wastewater Treatment Works on a Turnkey Basis within the Jozini Local Municipality. Thereafter, UPS engaged the services of Nankhoo Consulting Engineers as a subconsultant and turnkey partner, and Hanslab Environmental consultants were appointed to apply for the Environmental Authorisation, Water Use License and monthly Environmental Auditing for the duration of the construction phase.



## PROJECT URGENCY:

In the Jozini Local Municipality, the local community began protest action to gain attention regarding the urgent need for the wastewater treatment works to be improved. The poor sanitation facilities have led to several sewage spills within the area and has caused concern regarding the associated impacts to the health and wellbeing of the community. The uMkhanyakude District Municipality responded to the outcry by initiating the construction of the Jozini Wastewater Treatment Works and put together a team of specialists to undertake this process.





## JOZINI WWTW

The new wastewater treatment construction works began in 2019. The project includes the upgrade of the existing wastewater treatment works, decommissioning of three existing ponds, the construction of a new system to purify water, which includes a biological reaction tank, sedimentation tank and chlorine contact tank. The aim of the new system is to improve the quality of the wastewater discharged into the adjacent tributary to prevent the further pollution of the Pongola river, for both current and future development.

Through the efforts of the project team an Exemption from the Environmental Impact Assessment (EIA) process was received from the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (EDTEA) for the project. The exemption has allowed the upgrade of the new works to proceed on condition that Environmental Auditing, compliance and monitoring processes continue during the construction phase.

Subsequently, Hanslab conducts Environmental Audits monthly, and will continue for the duration of the project to ensure compliance with the National Environmental Management Act (Act 107 of 1998). The Water Use License is currently under review with the Department of Water and Sanitation and has been applied for under a General Authorisation in terms of the GNR 509 of the Act.



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## INTERESTING FACTS ABOUT WASTEWATER TREATMENT FACILITIES:

- There are two different types of wastewater – when it has come from domestic baths, kitchens, and laundries it is called grey water, and when the wastewater contains animal, human, or food waste it is referred to as black water.
- The initial, or primary, treatment is where the solids and liquids are separated using screening and sedimentation that results in sludge. However, the design of secondary wastewater treatment facilities was an idea taken from the natural environment. Micro-organisms found in sewage are utilized to assist with the method of ‘clean up’. Micro-organisms consume biodegradable pollutants found in the liquid waste, which results in rapid decomposition. The organisms are in turn fed the correct amount of food, oxygen and heat to survive.
- The waste products from all of these treatment stages are not wasted, in a process called wastewater reclamation. For example, the sludge from the first stage is made available as fertilizer for agricultural use.
- Wastewater treatment works are an ideal spot for those who enjoy bird watching as many beautiful bird species can be found around these facilities.
- Globally, only 20% of wastewater produced receive proper treatment (UNESCO, 2012).



## CONCLUSION:

OVERALL, THE JOZINI WWTW DEVELOPMENT HAS BEEN A DIVERSE AND EXCITING PROJECT FOR HANSLAB. THE TEAM WERE ENCOURAGED AND CHALLENGED TO THINK OUT OF THE BOX AT TIMES WHICH WAS A GREAT EXPERIENCE. THE HANSLAB TEAM HOPES THAT THIS PROJECT WILL CREATE AWARENESS ABOUT THE IMPORTANCE OF THE IMPROVED FACILITY AND THE BENEFITS OF USING THIS TECHNOLOGY IN WASTEWATER TREATMENT FACILITIES THROUGHOUT KWAZULU-NATAL.

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