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RB IPP
STORM WATER DISPOSAL

1. INTRODUCTION

The area falls within the municipal boundary of uMhlathuze and the storm water management must comply with their By Laws and relevant regulations of the IDZ.

The IDZ preliminary report on the development of the area "RB IDZ Preliminary Design Report Final, Alton North Phase 1F, June 2013" refers to storm water management in clause 9.3. This document describes the area as a summer rainfall area with a mean annual precipitation of >1000 mm pa. The intensity of point rain fall, in a 24-hr period, for a 1:50 year storm is given as 398 mm. The document refers to storm water disposal points being provided on the site and that the design must direct water to these points in a manner so as to allow the volumes to be properly absorbed. Attenuation measures must be included where required.

2. IMPLEMENTATION

The power plant function is regarded as critical. Storm water control should be designed in accordance with the National Building Regulations. The plant should remain functional and free of flooding in the event of, as a minimum requirement, a 1:50 year storm taking the appropriate times of concentration into account. The design is also subject to national requirements.

Storm water is to be collected from structures in a controlled manner, via gutters, channels, and pipes. Roads and paving may be used to collect water provided it is channelled to the disposal reticulation and does not result in excessive ponding or flooding of buildings and equipment. The design is to be implemented so as to prevent erosion.

Pollutants must be positively prevented from being discharged into the storm water system.

Entrances to buildings are to be protected from rain.

Provision is to be made to prevent underground ducts from filling with storm water, or ground water, rendering them unfit for service. They must be prevented from acting as conduits that allow water to flow into structures, such as basements and pits.

3. LOCAL INFORMATION

The following specific information has been obtained from the Deputy Manager - Stormwater Operations and Coastal Engineering, City of Umhlathuze:

The Stormwater Management Policy for the City of Umhlathuze has not yet been approved and adopted. The municipality will adopt the fundamental criteria contained in the following documents:

- The CSIR Guidelines for Human Settlement Planning and Design Volume 2 - Chapter 6 : Stormwater Management (aka "The Red Book")
- The SANRAL Drainage Manual 6th Edition
- The Ethekweni Municipality Stormwater Management : Design Manual : 2008

The following alterations and additions are specific to Umhlahuze:

- Design flood criteria for minor systems is 1:10 years storm return periods for Industrial and Commercial Zones, and 1:10 years for CBD's
- The on-site attenuation is applicable when the surface hardening of a site exceeds 60%. In this scenario, the designer will have to ensure that the site discharge volume does not exceed the municipal capacity provided, or alternatively calculate the volume and indicate the location of the necessary on-site attenuation.
- All municipal stormwater pipe sizes to be a min. of 450 mm, with a min. slope grade of 1:140

Where further geotechnical information becomes available, the stormwater disposal plan must be appropriately adapted to accommodate the information.

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