ISUNDU 765/400 KV SUB-STATION AND TURN-IN TRANSMISSION LINES
WATER USE LICENCE APPLICATION

PROPOSED MANAGEMENT AND MONITORING OF RIPARIAN HABITATS

1. MANAGEMENT OF RIPARIAN HABITATS

The management and monitoring of riparian areas and the associated buffers must be achieved through the strict implementation of the Environmental Management Programme (EMPr), with the incorporation recommendations of the Riparian Ecosystems Specialist:

- Beyond the extent of the finalised layout plan, ensure that the development avoids further loss/disturbance of riparian habitat and associated buffers zones.

- Incorporate buffer zones to preserve and protect ecosystem functioning. Generally, buffers are adopted to protect ecosystems from physical disturbance and to protect the water resource from diffuse pollution sources within an altered landscape. The following buffers are recommended in the context of the Isundu project:
  - A buffer zone of 20 m from the riparian boundary of B Channel systems – to reduce impacts on the riparian systems within and adjacent to the site.
  - A buffer zone of 10 m for the riparian boundary of A Channel systems – to maintain stormwater runoff functions, and to reduce impacts on freshwater ecosystems further downstream.

- Manage and maintain riparian habitats and surrounding buffers as far as practical within the study area. Management actions should consider, but not be limited to, the following:
  - Develop and implement a programme to eradicate and control problematic IAP species and prevent further spread.
  - All IAP control work should only be undertaken by a competent contractor. Active planting and revegetation using indigenous riparian plant species, ensuring a multi-layered, undisturbed vegetative community develops.

- Erosion control methods should be implemented to minimise the loss and degradation of soils. This should take the following into consideration:
  - Vegetation should be established as soon as possible after areas are cleared leaving soils bare and exposed.
  - Where necessary, an approved local indigenous grass seed mixture should be applied in conjunction with the sods removed during clearing activities.

- Ensure that the stormwater management plan for the development minimises flow-related impacts to the aquatic environment by incorporating:
  - Detention/attenuation structures where appropriate.
  - Permeable pavers with hardened areas (e.g. parking areas) to reduce stormwater runoff and encourage infiltration of surface water, as well as the concomitant transport of pollutants.
  - Multiple discharge points from the Sub-station site to allow a diffuse spread of surface runoff from the site.
  - Suitable baffle structures (e.g. gabion mattresses) at discharge points to dissipate the energy of stormwater runoff.

- Ensure minimal or no disturbance outside of the development footprint area during construction, and all material arising from the development must be prohibited from the riparian areas and associated buffer zones.
- No hazardous chemicals used and/or spilled during the construction process must enter the riparian areas. If such a spill occurs during and/or on completion of the construction, a hazardous spill protocol must be implemented and the affected area cleaned up and rehabilitated immediately.
- Provide alternative sources of drinking water for larger mammals that typically utilise farm dams with more permanent surface water. This may be in the form of livestock drinking troughs, and is based on the assumption that large game animals will remain in the property.

2. MONITORING OF RIPARIAN HABITAT

Within the riparian context, monitoring can be practically achieved through the use of the Index of Habitat Integrity method as used in the Riparian Ecosystem Assessment to assess the systems.

To aid the monitoring of the riparian areas, fixed point photography, at strategic points within (and downstream) of the affected area, should be included. These points can only be defined once the layout is finalised. Pre-development baselines must be established prior to construction.

It is recommended that a specific and final monitoring programme be established once the layout for the Isundu Sub-station has been finalised.