

## Zambezi Scour Protection, Tete, Mozambique

Installation of a sheet pile scour protection system for the foundations of one transmission tower installed on a sandbar island of the Zambezi River



### Project facts

#### Owner

Vale do Rio Doce

#### Client

Odebrecht

#### Consultant

Jones & Wagener

#### Quantity

1 512m<sup>2</sup> Steel Sheet Piles

152m<sup>3</sup> Reinforced Concrete Beams

#### Period of time

January - April 2013

### Franki Africa

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Tete, a city located on the Zambezi province and crossed by the Zambezi River, is mostly well-known due to its huge reserves of coal. In 2011 due to the necessity of the power line, that supplies some of the mines, crossing this large river, 4 transmission towers were installed on a sandbar 11km downstream of Tete.

In 2012, due to the worrying undermining of one of the towers foundations, located at the island's edge, a protection system had to be designed and installed.

The establishment commenced in the beginning of 2013, during the rainy season, which represented heavy rains and high temperatures. The equipment and material were transported using a barge and Franki faced strong river currents and fluctuation. The crew had to travel to site by boat every day and the presence of a professional wild life hunter on the island, during the works, was mandatory due to the presence of hippos and crocodiles.

The preconized solution consisted of a sheet pile cofferdam with reinforced concrete capping and tie beams.



### Product Description

#### Sheet Piling

- \* 1 512m<sup>2</sup> Steel Sheet Piles
- \* 152m<sup>3</sup> Reinforced Concrete Beams

This project comprised the installation of 136 No. PU18 steel sheet piles to 18m (supplied in lengths of 6 & 12 meters), coated on the top 6m only and equated to a total weight of 177 tons and a structural area of 1 512m<sup>2</sup>, using a Liebherr HS845 crane and an ICE 815 Vibrator machine and power pack.

Franki Africa sub-contracted and managed the civil works, which consisted on the construction of the reinforced concrete beams.

With the exception of some delays due to the rain and some initial teething problems with the vibrator, the work on site went very smoothly and the installation of the sheet piles was completed in 7 weeks.

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