



Msikaba and Mtentu River Bridges – Large Scale Infrastructure in Rural South Africa

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Abstract

The Msikaba and Mtentu River Bridges are located in the Wild Coast Region of South Africa and are being developed for client South African National Roads Agency Ltd (SANRAL). They are required as part of the overall plan to relocate the main north-south N2 highway through the Transkei to shorten overall travel times and to provide much improved access to one of the poorest regions of South Africa. Msikaba is a 580 m span cable-stayed bridge with pylons located at the gorge edge and no backspans; Mtentu is a 1.1 km long viaduct with a 260 m central balanced cantilever span. The project will be transformational for the Eastern Cape Province and local area, providing much needed socio-economic benefit, through new jobs and transport links that will be a catalyst for improvement, investment and development. This paper will show that the concept of a mega-structure needs to be seen in the context of the project and the community it serves.

Keywords: Mega-structures, Cable stayed, balanced cantilever, environment, community development, post-tensioned, incremental launch, composite.

1 Introduction

1.1 The Scheme

The existing N2 highway provides a strategic link from Cape Town via Port Elizabeth to Durban. Generally close to the coast and linking many smaller towns between East London and Port Shepstone the highway is routed inland to avoid the Wild Coast region – an area characterised by a rolling landscape cut by various rivers and deep valleys. A strongly traditional area, physically and economically isolated, development of the area is a strategic goal for the South African government.

The new N2 Wild Coast Road (N2WCR) being developed by the South African National Roads Agency's SOC Ltd (SANRAL) is a key part of this strategy. The Scheme includes some 112 km of new road. Once complete, the route will be approximately 85 km shorter than the current route and be up to 3 hours faster.

The new highway will significantly change the historical movement patterns within the region. People will no longer move northwards toward the existing N2 but rather southwards and along the coast to the towns of Port Edward, Lusikisiki and Port St John's, as shown in Figure 1. Access to urban centres will be improved and significant growth of those centres is anticipated.