



**CONSULTING
IN AFRICA**



Designs that empower African communities

Building roads that connect economies and communities requires a multifaceted approach, which Knight Piésold Consulting is spearheading on a range of local and cross-border projects, as Wayne Hunt, director: Transport, explains.



Wayne Hunt, director: Transport, Knight Piésold

FOR MANY COMMUNITIES in Africa, especially in rural regions, the construction of a world-class asphalt pavement in their region is an event to celebrate. Villages, cut off for years from the main economy, are connected for the first time, whether by car, bus, or bicycle. And for those experiencing it for the first time, they watch the passing traffic with absolute fascination: they're drawn in and excited by new opportunities.

"In South Africa, as in any other country where we operate, we want to help these communities to come on board, wherever practical, from

the inception of these projects," says Hunt. "Locally, the current procurement legislation helps significantly to promote this in terms of targeted enterprises, enabling us to transfer much-needed skills to job seekers, alongside the mentorship of SMME engineering consultants and contractors."

As a professional design house, construction and project management implementer, Knight Piésold works with its clients to create development paths for emerging entities. For example, SMME sub-consultants frequently work in-house alongside Knight Piésold professionals

and obtain invaluable experience. In turn, each project, with client consultation, is broken down into purpose-designed work packages so that contractors rated by the Construction Industry Development Board can participate and develop in their respective levels of experience.

"All these objectives can only be achieved by upskilling our own personnel, which is an ongoing priority, especially in terms of previously disadvantaged groups and women. It's not a new initiative. As a wholly owned South African company, we've focused on these and other areas from inception, and that's a significant statement considering

Knight Piésold continues to expand its African footprint and is ready to take on projects that meet its business objectives



that we celebrate 96 years of operation in May 2017. That's what makes us an innovative leader."

Services included in the transportation field include environmental compliance, land acquisitions, geotechnical investigations, traffic studies, structures and pavements. This includes analysing and recommending specific asphalt mix designs.

Gauteng developments: nanotechnology first

Within the Gauteng region, Knight Piésold is currently working on a series of projects, some purely provincial, while others include South African National Roads Agency (SANRAL) developments that traverse through the province.

A major one is the K46 upgrade – a 7 km section extending from the Dainfern residential and commercial node to Diepsloot – which caters for future expansion. With an estimated construction value of around R550 million, this is a strategic infrastructure project commissioned

by the Gauteng Department of Roads and Transport. The project is scheduled for completion early in 2018.

From the original single section, three lanes in either direction are being constructed, which includes dedicated zones for non-motorised transport (i.e. bicycles), as well as bus and taxi stops. This comprises Phase 2. Phase 1, completed some years ago, runs from the N1 highway to the starting point of Dainfern.

"What's particularly interesting about this project is the application of nanotechnology: more specially, a Nano-Modified Emulsion stabilisation agent is being successfully constructed for the first time on a Gauteng roads project," Hunt explains. "The application of this technology results drastically reduces the susceptibility of the pavement layer materials to water. The result is that the process has the effect of extending the pavement design life for the same comparable expenditure used by adopting more conventional black-top applications." This nanotechnology has been tested and proven not only locally, but on other projects worldwide.

Another landmark project included on the above route is the construction of the Rose Road interchange, which provides access to the mixed-use Steyn City development and is being co-funded by the developer.

Gauteng projects in the design phase

Alongside new construction, Knight Piésold's transportation team is busy with a series of designs that will take Gauteng's infrastructure to new levels. These include the K77 and K154 in the Walkerville region, situated south of Johannesburg. The K154 will be a gravel-to-tar road upgrade, while the K77 is a greenfield project that will link the K154 with future residential, commercial and industrial developments planned for the area. Construction is expected to commence from September 2017.

SANRAL

Moving nationally, Knight Piésold is currently employed by SANRAL on six reseal projects in North West province. These entail either single or double seals, or new asphalt overlays combined with base repairs involving in situ recycling.

Further afield, another current project in KwaZulu-Natal entails a major route upgrade from Pongola to the Mpumalanga border in the direction of Piet Retief. The distance is approximately 40 km and will entail the construction of a dual-lane route in place of the existing single one, separated by New Jersey barriers. As the route passes through dense residential areas, including schools and clinics that border the route, extra safety precautions need to be adopted.

Work is also in progress on the N1 from Masekwaspoort to Beit Bridge, which entails extensive remediation along this 50 km section.

Meanwhile, the design team is hard at work on the N2 Hibberdene to Umtentweni improvement project. This 20 km section will be upgraded to a dual carriageway and includes the construction of a 180 m long river bridge. A total of 30 existing structures need to be extended to accommodate the proposed works. This is the last piece on this of the N2 that requires upgrading; therefore, it's of major public interest.

Rest of Africa

Knight Piésold continues to expand its African footprint and is ready to take on projects that meet its business objectives.

"We have memorandums of agreement in place with leading South African contractors and will embark on bankable projects that deliver in terms of our operational mandate," says Hunt.

Namibia has been one of the mainstays in recent years, where Knight Piésold is one of the key consultants on the Neckartal Dam, the largest yet constructed in the country.

Design implementation is now well advanced on the 115 km Khorixas to Uis gravel-to-tar upgrade in Namibia. Construction is expected to commence from August 2017 and the new route will feature a world-class dual carriageway. A single-lane 80 m long bridge along the route will need to be constructed.

Historically, Knight Piésold has worked in the DRC, and between 2013 and 2015 was employed on the upgrade of the Great East Road in Zambia. The firm also served as the consultant on the Arcades to Lusaka Airport upgrade, which included traffic studies and proposals for future transportation infrastructure expansion.

"We now have around 60 personnel employed in our transportation department, and these are broken down into a myriad of specialisations to ensure that we cover every client requirement. We've been perfecting our transportation capabilities since inception in 1921, and so we are well placed to meet South Africa and Africa's requirements, and in the process, we're proud to say that we have a proven track record for building careers and growing SMMEs to meet their full potential." **35**

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