

## ROUTINE MAINTENANCE OF THE R72

# Improvement of drainage structures and minor works

The high-trafficked R72 forms part of important infrastructure in the Eastern Cape. Due to low maintenance over the years, the route between Nanara and East London was in need of an upgrade.

**T**HE R72 IS a major route in East London, among others such as the R343 and R345, linking Kenton on Sea with the N2 and Peddie with the R72 respectively. In light of low maintenance over the past years, and to maintain and improve the riding quality, maintaining road furniture and subsidiary works, as well as protecting the pavement, routine maintenance projects on all the major roads in the Eastern Cape came into effect in February 2010.

The scope of works along the R72 between Nanara and East London includes planning, design and management of a maintenance holding contract for nine months, which was completed in May 2011, and a routine maintenance contract for another 36 months. The three year maintenance contract is valued at R 16 882 111 and covers a length of approximately 341 km of road along the R72 and R343.

### Project overview

The extent of the works for this contract includes the following:

- clearing and grubbing
- collection and removal of debris and litter
- stormwater and drains
- asphalt and concrete berms
- pavement layers of gravel material
- patching and repairing edge breaks
- bituminous single seal with slurry (cape seal)
- treatment to an existing surface exhibiting certain defects
- gabions
- guardrails
- road signs
- road markings
- control vegetation growth – mowing and cutting
- chemical control of vegetation and eradication of undesirable vegetation
- training
- emergency standby team.

One of the main challenges was to determine how best to utilise the available budget especially after heavy rainstorms which severely affected the condition of the road. Traffic loading on the R72 with a 60% heavy vehicle ratio, also had to be taken into consideration. During the detailed visual assessment and design process, the following controls/checks were implemented:

- pavement and materials design
- practicality of elected remedial action
- road drainage improvements
- detail design drawings (if required)
- coordination of services drawing
- value engineering
- traffic accommodation detail and specification, including fining mechanism for contractor not adhering to specification
- health and safety.

Other important maintenance issues such as grass cutting, betterment of sight distances, guardrail repairs, rest areas and even storm water drainage are often only partly addressed as a result of the vast number of major black top failures over long distances associated with the overall condition of the road and traffic volumes, together with budget constraints.

In late 2011, road markings were successfully carried out over the complete length of the road as a safety measure.

### Availability of construction materials

Currently, the major challenge being experienced on the project is the availability of construction materials. Long distances to work areas and bitumen shortage in the latter half of 2011 were crucial factors in the availability of construction materials.

Although bitumen-treated base is more expensive, it is preferred over emulsion-treated base for patch repair work as a result of heavy vehicles and rainy weather. Emulsion-treated base repairs were tried, and curing periods and traffic volumes did not allow for successful implementation.

As a desperate measure during October 2011 when bitumen-treated base was not available, a concrete mix was used for base and surface patching. Patches with concrete had to cure for the night by means of night stop/go traffic accommodation. Assistance from the traffic police in Port Alfred was very helpful in this regard. During rainy weather, plugging of potholes was done temporarily by using sabunga or a fine aggregate stabilised with cement. As an alternative, hydro asphalt will be considered in 2012 for repairing patches in rainy weather.

The project commenced on 28 June 2011 and is scheduled for completion on 28 June 2014. **35**

PROJECT TEAM	
Client	Eastern Cape Department of Road and Public Works
Project engineer	Engineering Advice and Services
Civil consulting engineers	Madan Singh Bester & Associates cc
Civil contractor	African Bulk Earthworks

