JEFFARES & GREEN (Pty) Ltd was appointed by the Western Cape Provincial Administration: Department of Transport and Public Works to do the planning of the strategic road network in the vicinity of the existing Potsdam Road Intersection, as well as the design and construction supervision of the Potsdam Road Interchange and ancillary roads.

The project entailed the following studies:

- An investigation into the safety of the existing, heavily overloaded, at-grade intersection with the N7 and the identification of immediate, short-, medium- and long-term measures to improve the safety and capacity of the intersection. This study highlighted the need for grade separation.
- Re-assessing the metropolitan strategic road network (to the east of the N7) in the vicinity of the Potsdam area. This included setting up a Saturn Traffic Simulation Model developed specifically for this project to determine the current and future traffic volumes for both the medium- and long-term for the interchange under different development and network scenarios.
- Identifying ten different interchange configurations, and costing and analysing each scheme to determine the most suitable and cost-effective configuration for the interchange.
- Undertaking an economic evaluation to test the economic viability of the first phase of the preferred interchange scheme.

AIMS AND OBJECTIVES

The interchange will eliminate the existing unsafe intersection and, when linked to the metropolitan road network north of the Diep River, will unlock land for future develop-

PROJECT INFO

Client
Western Cape Provincial Administration Department of Transport and Public Works
Consulting Engineers
Jeffares & Green (Pty) Ltd
Contractor
Vusela Construction (Pty) Ltd

MAJOR ITEMS OF WORK ON THE CONTRACT

- Bulk fill 180 000 m³
- Selected layers 25 000 m³
- Cement-stabilised subbase 20 000 m³
- G1 basecourse 11 500 m³
- Asphalt surfacing, 50 mm thick, 61 500 m²
- Structural concrete 2 500 m³
- Steel reinforcement for structures 270 t

Above: Bridge over the N7
Bottom left: Gabion-lined river training works
Opposite page: Twin-cell bridge deck – Bottom section

Phase 1 of the Potsdam Road Interchange on the N7 now under construction
ment and ultimately provide a direct link between Stellenbosch and Atlantis via Parow and Cape Town International Airport.

**PROJECT DESCRIPTION**
A split-diamond was the interchange configuration finally decided upon. The first phase comprises the following:
- 2.2 km of single carriageway of the overpassing road (M112)
- 3.5 km of associated ramps connecting up with the N7
- Reconstruction of approximately 300 m of the existing Potsdam Road west of the N7
- Widening of about 500 m of the existing Contemanskloof Road in the east of the N7
- Traffic signals
- Streetlighting
- Four large cast-in-situ culverts, three drainage structures and one agricultural underpass
- Construction of a 83.75 m long four-span continuous bridge carrying the M112 over the N7. The bridge has an angle of skew of 32° and the width between balustrades is 16.2 m

The deck is a post-tensioned twin box to be constructed in two stages. The main spans are 28.35 m and the jackspans 13.5 m in length.

The substructure comprises spill-through abutments and Y-shaped columns on spread footings founded in moderately weathered shale.

**PROJECT STATUS**
The contract for the first phase was advertised on 29 July 2005 and awarded to Vusela Construction (Pty) Ltd at a tender sum of R71.3 million.

Construction commenced during November 2005 and is contractually due for completion during October 2007. Work is progressing well and eight months into the contract the critical path activities are two weeks ahead of programme.

Source: