The City of Johannesburg’s Housing Department awarded the construction of an access road, stormwater pipeline and a car bridge across a river in the Elias Motsoaledi District in Soweto, to Stefanutti Stocks Civils / A Re Shomeng Joint Venture. The project commenced in February 2016 and is due for completion in February 2017.

The five-span, 65-metre long, 14-metre wide continuous composite deck bridge will be supported on two reinforced concrete abutment walls and four piers supported on spread footing. The supports will be founded on mass concrete underlain by a rock layer. The access road is approximately a kilometre long, with a 750-metre long stormwater pipe (consisting of concrete pipes between 450 and 900mm in diameter) running alongside.

The main purpose of the new bridge is to link two newly developed Reconstruction and Development Programme (RDP) housing communities that are currently separated by a river. The project is being executed within what is currently a politically charged environment. “Prior to commencement of road construction the services and shacks in the road reserve needed to be removed and people relocated to their RDP houses,” explains contracts manager Glen Deyzel. “At the end of April the area had been cleared.”

The bridge is being constructed in an environmentally sensitive area, specifically within wetlands where it will cross a ravine and a small river. In order to be permitted to construct the bridge a Record of Decision (ROD) and WULA (Water Use License Application) must be approved by the Department of Water Affairs & Forestry. Once the application has been successful, construction work must remain within the boundaries of the ROD, in order to avoid heavy fines.

An innovative bridge-deck support solution is required to overcome various considerations including the ravine that is situated under the bridge location, weak ground conditions, a flowing river and the threat of the support work being stolen. A suitable decking system has been designed by the Stefanutti Stocks technical department which incorporates the suspension of the deck formwork from beams and supported by towers at the piers (see Figure 1).

To ensure involvement in the construction project, community members will participate in the precasting and installation of the kerbs and F-shape barriers, which will be constructed in a precast yard located on site. Community members will also receive on-site training in the civil trades as well as formal construction training via the Stefanutti Stocks Solid Foundations Training Programme.

A further community initiative sees the construction of a soccer field, which will be formally handed over to community leaders, complete with two goal posts.

“This is an incredibly interesting project that requires team work, an open mind, a community-based approach and technical know-how to succeed,” says Deyzel. “Building a concrete structure that grants access and enables a rural, undeveloped community to become part of the developed, successful and growing Soweto community is one I will be proud to show my own children one day.”