

1 Bridges a big part of project

The Huntly project involves nine bridges in various shapes, sizes and designs

One bridge carrying Expressway traffic

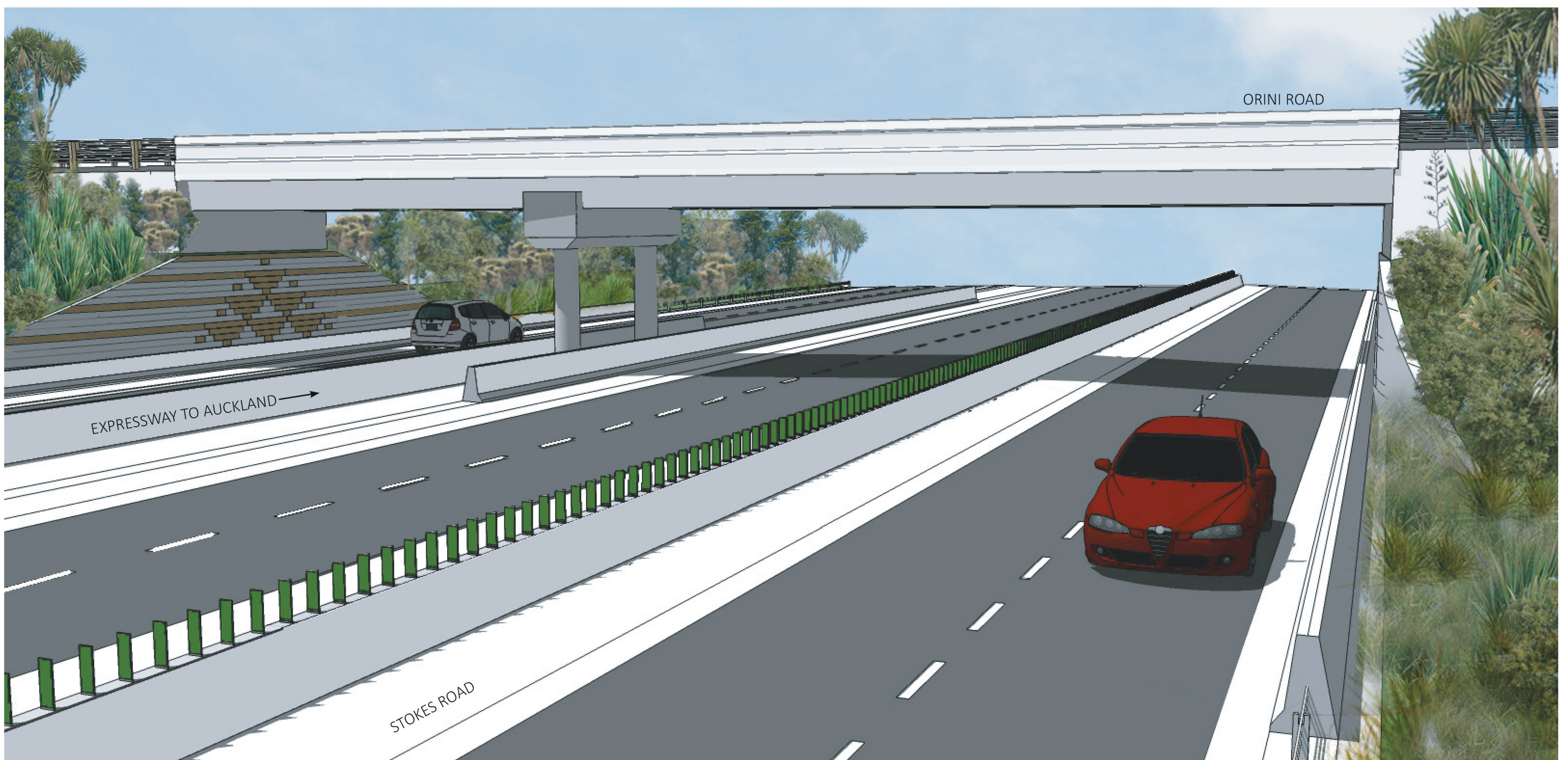
over the North Island Main Trunk railway, at the northern tie-in.

Four bridges taking local roads over the Expressway

- Ralph Road, McVie Road, Orini Road and Waring Road.

Four bridges carrying the Expressway over waterways

- Mangawara Stream, Whangamaire Stream, Komakorau Stream and Mangatoketoke Stream



Artist's impression of the Orini Road overbridge

Construction

The four stream bridges are supported on piled foundations, varying from 20m to 60m in depth. Piles are typically top-driven steel tubes, filled with reinforced concrete. The remaining bridges are supported on pad foundations on

mechanically stabilised earth (MSE) retaining walls.

Four bridges (railway, Mangawara, Whangamaire, and Mangatoketoke) are steel-concrete composite structures, utilising weathering steel girders with

precast and insitu concrete deck slabs. The remaining bridges (Ralph, McVie, Orini, Waring and Komakorau) utilise pre-cast pre-stressed super tee beams with an insitu concrete topping to complete the deck slab.