



Tonkin & Taylor

Northern Gateway - Stormwater, Auckland

Client

Transit New Zealand.

Project

The Northern Gateway project involves construction of a 7.5 km section of motorway between Orewa and Puhoi. The route crosses areas of native bush which has high environmental sensitivity and steep topography requiring a number of major bridges, tunnels and deep cut/fills. The project is currently the largest roading works in New Zealand valued at \$360 M. Tonkin & Taylor has been a full alliance member of the project design and construction team providing stormwater and geotechnical design expertise.

T&T's stormwater design included many innovative features to minimise the motorway footprint and protect and enhance ecological habitats. The stormwater design objectives were to meet road safety criteria, conditions of consent and the project objectives for engineering and environmental excellence.

Services provided

- Stormwater design management
- Consent applications for construction and design changes
- Carriageway surface drainage design for road safety
- Extensive pipe network design (approximately 14 km of pipe)
- Design on nine water quality treatment and attenuation wetlands

- Extensive clean water diversion drains (approx. 12 km in length) to reduce runoff to treatment wetlands
- Design of five major culverts, including fish passage and innovative internal aquatic habitats
- Hydraulic structure and outfall designs
- Design of irrigation systems for vegetation below the eco-viaducts
- Design of tunnel drainage systems incorporating fire control measures
- Innovative drainage design to reduce motorway footprint.



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