



Stormwater and flooding



The construction and operation of state highways can affect natural waterways and drainage patterns. Waka Kotahi NZ Transport Agency aims to manage potentially adverse effects through considered design and best practice stormwater management and water treatment techniques.

Waka Kotahi takes a proactive approach to minimising any adverse effects from the construction and operation of state highways.

Designing new transport corridors

Despite careful route selection, the alignment of some state highways has the potential to intercept waterways and overland flow paths and increase erosion rates and flood flows. Stormwater runoff during construction and from the road during operation can also have an impact on the quality of water in receiving environments.

During the planning and design process for new or improved corridors, Waka Kotahi undertakes technical investigations that incorporate engineering, water quality science, freshwater and riparian ecology, landscaping and cultural values.

Using the information we gather, we are able to design conveyance and outfall systems that help manage any adverse effects of the road construction. In some cases we also use flood modelling to inform our designs and mitigate the risk of flooding.

Construction

While construction is underway, when the soil is exposed due to earthworks, we adopt best practice methods for erosion and sediment control.

Sedimentation ponds and measures to protect or stabilise the soil surface are implemented, alongside close monitoring by construction personnel.

Local authorities make regular checks to ensure our compliance with relevant consent conditions.

Pollutants

Vehicles on state highways produce pollutants that mix with rainwater and have the potential to enter surface and groundwater via drains and infiltration. Pollutants from vehicles can include exhaust emissions and waste products from braking and tyres.

Waka Kotahi uses a range of devices to treat stormwater from the highway, including constructed wetlands (pictured).

The SH1 Whangārei to Port Marsden Highway project

The SH1 Whangārei to Port Marsden Highway project is an upgraded four-lane corridor that will improve transport connections. The emerging preferred corridor mostly follows the existing state highway, with some sections built on a new alignment to straighten out curves.

Waka Kotahi is carrying out specialist technical investigations in order to better understand current flooding issues along the corridor as well as areas through Oakleigh at risk of coastal inundation. We are developing a design that includes comprehensive stormwater and drainage systems and will not make existing flooding issues worse.

We will undertake flood modelling to understand the potential impact of the project on the various waterways and catchments in the area.

At this stage we will also start thinking about how earthworks can be managed during construction to reduce effects associated with sediment discharges.



For more information, visit the project webpage or contact the project team



www.nzta.govt.nz/w2pmh



w2pmh@nzta.govt.nz



0800 948 342

Kei te kaha mātou ki te mahi me ō mātou hapori katoa. Ki te hiahia koe i ēnei mōhiohio i whakamāoritia ki te reo Māori, whakapā mai i konei: w2pmh@nzta.govt.nz

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