

PROJECT EXCELLENCE – WAIROA VALLEY

The Takitimu North Link Project is the largest project that Tauranga (in New Zealand) has seen to date. With over 3 million m³ of earthworks, 19 culverts, 8 stream diversions and 8 bridges they have a lot of challenges over the next 5 years. Right from the very start of the project, the key area to establish has been the Wairoa Valley. Takitimu North Link is a Waka Kotahi NZ Transport Agency project, being delivered as part of the Government's New Zealand Upgrade Programme. The project is being delivered by a FH/HEB Joint Venture.

The Wairoa Valley is 1.6km wide, runs through the middle of the project and is crucial to the project mass haul. It is situated in the floodplain of the Wairoa River which has a large mountain-fed catchment area prone to flooding. One of the biggest challenges to date has been setting up environmental controls and undertaking enabling works construction. With over 600,000m³ of fill to be placed across the river floodplain, multiple archaeological sites, high groundwater tables, poor ground conditions, small construction boundaries and over 2 kilometers of stream diversions we have had to think creatively out of the "Erosion and Sediment Control (ESC) guideline box" on how to design and construct best practice environmental controls along the way.

Archaeological requirements on the project expanded dramatically limiting access and progress within the valley early on. The nature of the archaeological investigations meant that no other earthworks could be undertaken until large portions of the site were cleared. This resulted in multistage approaches to ESC management all outside the typical bounds of the ESC guidelines and manuals.

Inability to break the existing ground surface and dig holes resulted in all ESC devices in the valley being built up out of the ground on top of the existing surface level. The site was bunded off around the perimeter and meant that all water which fell within the site catchment had to be manually pumped to the ESC devices for treatment all while experiencing the wettest year since 1968 and the wettest summer season on record. It wasn't until earthworks had reached over 2m in height through the valley that water could get to ESC devices using gravity. Other constraints with the position of the Wairoa Bridge meant in order to get water to the last SRP, an aqueduct was constructed.

This out of the box thinking has resulted in a level of environmental coordination and cooperation between the environmental and construction teams which has driven innovation. Brainstorming outside of guideline specification has produced fantastic environmental outcomes in an incredibly difficult area of earthworks which has been hailed by local regulatory enforcers as "setting a new standard for environmental management on major infrastructure projects".



WAIROA VALLEY WEST

WAIROA RIVER

WAIROA VALLEY EAST