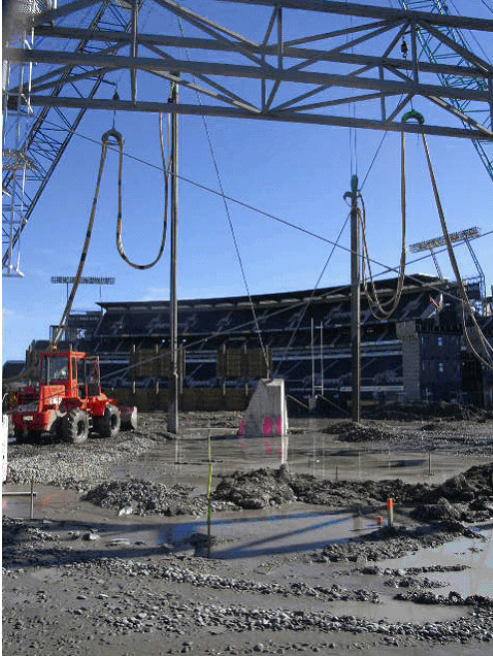


PEGASUS TOWN & CHRISTCHURCH AMI STADIUM



GROUND IMPROVEMENT TECHNIQUES FOR LIQUEFACTION MITIGATION VIBROCOMPACTION & STONE COLUMNS



PEGASUS TOWN - Pure vibrocompaction 2007

THE PROJECT

Pegasus Township is the construction of a complete new town in North Canterbury, North East of Woodend off state highway one. The global project is constituted by private houses, a school, a hotel, a supermarket and an artificial lake. The vibrocompaction method was selected by the Client for the main ground improvement works in the town centre and the edge of the lake (shore line surrounding the lake). At these locations, lateral spreading of the ground could take place during a seismic event as the prevailing soils are susceptible to liquefaction.

THE ROLE OF SOLETANCHE BACHY

Considering the configuration of the works, the Main Contractor Brian Perry Civil in joint venture with the Soletanche-Bachy group were initially selected to perform a trial defined by BECA Infrastructure Ltd (BECA). Following the trial and further competitive tender submission, Brian Perry Civil Soletanche-Bachy team was awarded the main vibrocompaction works.

CHRISTCHURCH AMI STADIUM- stone columns 2008

THE PROJECT

This project consists in the demolition of an existing stand at the Jade stadium of Christchurch and the construction of a covered new one. Because of the shallow foundations, it has been requested to improve the ground characteristics in order to decrease settlements, decrease differential settlements, mitigate the liquefaction risk and the differential settlements that might be induced by a possible seism.

THE ROLE OF SOLETANCHE BACHY

Tonkin & Taylor were engaged by Brian Perry Civil (BPC) to provide geotechnical design, construction review and certification for the ground improvement works recently completed for the new East Stand at AMI Stadium. The ground improvement contract was awarded to BPC on a design-build basis, with Alan Reay Consultants acting as the Client's engineer for contractual approval. Technical assistance with the ground improvement works and interpretation was also provided through BPC's association with The Vibroflotation Group of Bachy Soletanche (Vibro Services). Vibro Services have also contributed their technical input and practical experience for this completion report.