

Velodrome Required Precision Repair

INDUSTRY

Infrastructure

STRUCTURE

Velodrome

PROBLEM

Weak ground

LOCATION

Auckland, New Zealand

DURATION / YEAR

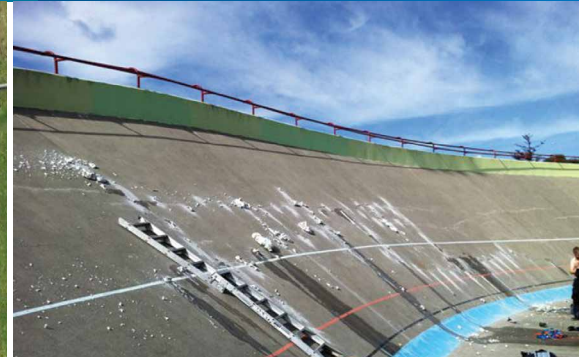
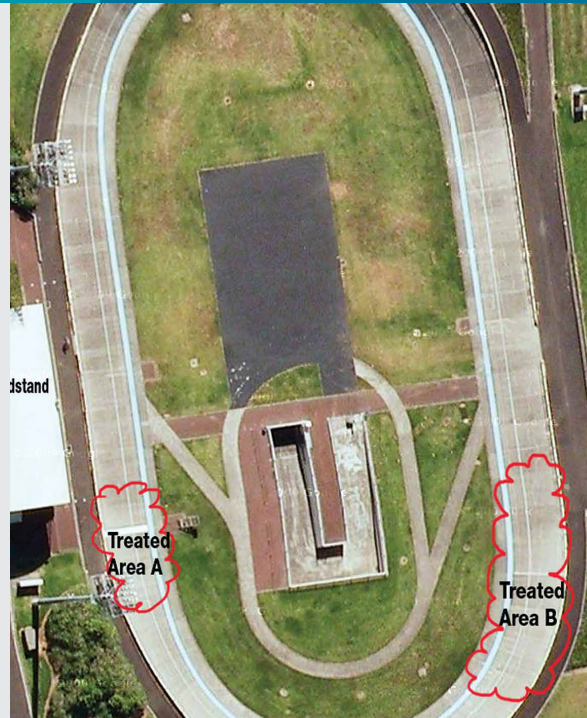
1 day / 2013

TECHNOLOGY

Uretek Deep Injection
& Uretek Slab Lifting

BUSINESS UNIT

Mainmark New Zealand



Summary

The Manukau Velodrome in Auckland is of importance to the community, as it is the cycling training facility for elite cyclists, and is used for riders preparing for the Commonwealth and Olympic Games. The area at the end of the finishing straight was identified as problematic and a Health & Safety issue due to a “bump”.

A very specific set of high tolerance survey data was analysed using laser levellers and Compulevels to survey the track surface. This enabled minor deformations in the track to be detected with a high degree of confidence.

This steeply banked track was affected in two areas: Area 1, which was across the start-finish line had significant deformation over a section of approximately 22m², with up to 70mm depression.

At Area 2 self-compaction of the underlying sub-surface hard fills was allowing water to permeate through the Velodrome slab surface and cause safety issues. Area 2 was approximately 90m².

Objectives

The slabs were to be brought back to their precise levels and the sub-grade had to be strengthened to mitigate against further settlement and water ingress.

Solution

We applied engineered structural resin technologies, Slab-Lifting and Slab-Joint Stitching, to realign the affected sections of the the cycling track bringing each part back to its design levels.

Uretek Deep-Injection strengthened and stabilised the sub-base ground and filled voids, serving to help eliminate the possibility of future water ingress.

The velodrome was re-aligned so that elite cyclists could use it again without experiencing deviations in the cycle track surface and alignments.