

Project: Bike Taupo – Great Lake Trail
Date: December 2011
Client: NZ Cycleway Trail – Nga Haerenga
Location: Taupo



bidim®

After 3 years of planning, the 'Great Lake Trail' in Taupo is under construction and forms part of the National Cycleway. The trail is a joint initiative involving Bike Taupo, Department of Conservation (DOC), Taupo District Council, local community supporters and The New Zealand Cycle Trail Project.

One section of the trail passes through a wetland area on Department of Conservation land and adjacent farmland. Whilst side cutting into a steep slope, the track crew encountered water seeping below the surface near low-lying farmland. Rather than installing another structure, a more cost effective and maintenance free solution was sought.

bidim® geotextiles are excellent replacements for expensive imported uniform or graded soil filters around perforated pipe underdrains. They can be used in some circumstances wrapped around the perforated pipe or wrapped around a trench filled with open graded stone. The complex needle punched structure of **bidim® geotextile** acts to retain a large range of soil particle types without reducing the permeability of the drain.

bidim® geotextile is also effective in soil improvement applications due to its ability to perform multiple functions such as separation, stabilisation and drainage. This makes it an ideal product to solve a number of problems faced by the contractor at this site.

The decision was made to provide drainage to intercept the groundwater flow and direct it away from the path. **bidim® A29 geotextile** was installed as a wrapped subsoil drain to filter the incoming ground water from the adjacent property which was then collected by the perforated pipe and directed to an outlet away from the path.



Construction of subsoil drain



During construction

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Installed bidim® geotextile as a separation layer



Final covering of pumice and soil

bidim® A29 geotextile was also placed as a separation layer directly over the subgrade. This was followed by the pumice fill which was then compacted to provide a free draining firm track surface for the bikers and walkers.

The pumice fill used in the trail construction occurs predominantly in the Central North Island. Besides the fill and drainage materials the only other requirements for this section of track were the small bridges and boardwalks to cross the watercourse.

The use of **bidim® geotextile** reduced the level of foundation preparation required and prevented the imported fill from mixing with the softer soil below. This was found to speed up the construction process and reduce the level of wastage of the imported pumice fill.

This installation has now been in place trouble free for three months after an unusually wet summer with multiple heavy rain events. This part of the Great Lake Trail is open and covers 6.2km with everyone enjoying the ride through wetlands and the birdlife that abounds in this area.

When completed, the trail will cover 93km providing a track suitable for all weather riding.



Completed wetlands area o cycleway Jan 2012