



bidim® - Calder Extension

2007/08 has ended with activity levels in the engineering, construction and mining sectors remaining buoyant. We have seen many achievements across our operations during the year, with recent highlights being –

- Achieving the growth targets we set ourselves a year ago
- Completing the manufacturing project in time for the new financial year. This upgrade will help us manage the adverse impact of rising polymer costs during 2008/09 as all of our raw materials are derived from oil
- Finalising the testing regime for landfill cushioning geotextiles – an innovation that will allow landfill designers to better understand their lining systems
- Launching the **TriAx**® geogrid into Australia – a world-leading system that brings numerous benefits to road, mining and railway designers

Throughout 2007/08 it has been pleasing to see the commitment and passion of our teams as they work with our clients to deliver their projects on time and within budget.

The new financial year brings new challenges. We are looking forward to working with you in what promises to be a busy 2008/09.

The Geofabrics Team

News & Events:

To support the pending release of world-leading research for our **ELCOROCK**® coastal protection system, we have launched a new website – www.elcorock.com. The website will connect with the coastal engineering community in a focused manner.

We are also excited about the recent successes with our golf solutions. We are currently supplying **Bunkermat**® and **Megaflo**® into signature golf courses in Malaysia, the UAE and Turkey.

For more information, refer to our golf website – www.elcos-golf.com

Our export markets continue to develop – with our solutions currently being exported to landfill projects in India, coastal projects in Europe and mining projects in southern Africa.

If you are working on an international project, contact us on exports@geofabrics.com.au

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Lakes Entrance Groynes - 'ELCOROCK® stops erosion...'

Lakes Entrance is situated 320km east of Melbourne on the Victorian coastline. As its name suggests, Lakes Entrance is a man made opening that allows ocean-going vessels access to the Gippsland Lakes, the largest navigable inland waterway in Australia covering some 400 square kilometres. One unforeseen ramification of the opening was an increase in salinity within the fresh water lakes system, causing a loss of shoreline vegetation which is unable to tolerate the salty water. This in

conjunction with the highly organic dispersive black clays of the area has resulted in shoreline erosion. In one particular section it is estimated there has been a shoreline loss in excess of 3.5m in the last two years with a total of 20ha lost over ten years.

Previous rock beaching efforts to control the shoreline erosion were futile. It was decided a system of groynes would be utilised to deflect and reduce wave energy thus limiting sand migration and enabling

foreshore replenishment. **ELCOROCK® T1** mega tubes were chosen to construct the groynes due to their robustness and stability. The tubes manufactured from **ELCOMAX®** needle punched geotextile offer durability and rapid deployment. Site-won silty-sand material was dredged from the lake as part of regular dredging works facilitating not only an economical solution but also negating the need to import off-site material. To date nine 15m T1 tubes have been installed at various locations throughout the lakes system with a potential eight more 30m sections to be considered due to the exceptional performance of the **ELCOROCK®** containers.



For more information on the project and products used contact Cameron Roberts on (03) 8586 9111 or email at c.roberts@geofabrics.com.au

'ELCOROCK® mega container'

Reliance Rail Maintenance Facility -

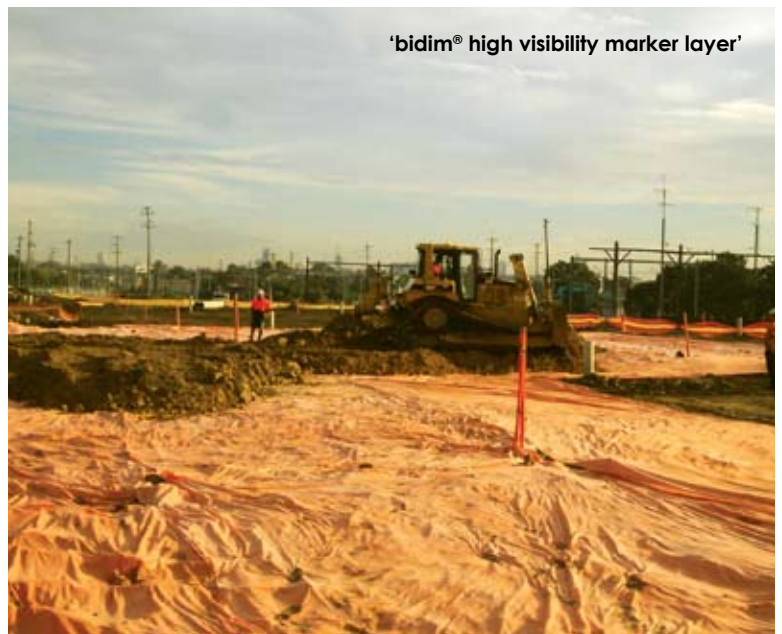
'bidim® highlights the hazard...'

As part of a substantial upgrade of the Sydney rail network, Railcorp (the Sydney Metropolitan Rail operator) planned to build the Reliance Rail Maintenance facility on Railcorp land at Clyde.

Railcorp engaged John Holland as its head contractor. John Holland engaged Landpac as its earthworks contractor. Due to the presence of contamination on site, it was decided to cover the contaminated land with a high visibility marker layer, so that should there be any future excavations in the area, the operators would be warned of the hazard. The aim of the marker layer was to provide well defined declination between clean and contaminated fill.

The standard grey, black or white geotextiles were not deemed to provide sufficient visual impact to warn of a potential hazard, and orange material was the preferred option.

Landpac purchased 100,000m² of orange **bidim®** high visibility marker layer from Geofabrics to satisfy this requirement. The marker layer was specially manufactured at the Geofabrics factory in Albury NSW from orange coloured polyester polymer. The marker layer was covered with clean fill using GPS and laser guided bulldozers that controlled final levels to plus 0mm and minus 20mm.



'bidim® high visibility marker layer'

For more information on the project and products used contact Geofabrics on (02) 9821 3277

Tensar Supports Northland's Heavy Load

The Northland Shopping Centre parking area in Melbourne's northern suburbs was showing excessive cracking due to poor subgrade and drainage conditions. Increased loading from heavy vehicles also contributed to the surfaces deterioration, making the pavement upgrade necessary.

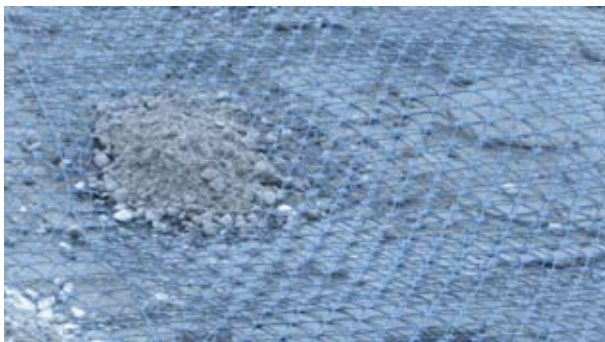
200 to 300mm of the existing saturated pavement was removed and spoiled. **TriAx® TX160** was laid directly on the sub base interface, a blend of granular fill and recycled concrete was placed over the grid and finished with an asphalt surfacing layer.

The use of **TriAx® geogrid** greatly improved the aggregate confinement and interaction, leading to improved structural performance of the mechanically stabilized layer, thus reducing the thickness of the layer required over such poor subgrade conditions.

Parking areas experience varied loading in multiple directions, **TriAx®** is perfectly suited to this type of loading due to its high radial stiffness through 360 degrees, distributing loads evenly through the structure.

Geofabrics supplied over 20 000m² of **Tensar® Geogrids** to this project.

For further information please contact Sharon Hunter-Smith on 03 8586 9100 or s.hunter-smith@geofabrics.com.au



Ophir Road 'Geofabrics seals the landfill...'

Ophir Road Resource Recovery Centre is the recycling facility and landfill for the NSW regional city of Orange operated by the Orange City Council.

In February 2007 the existing landfill cell at the Ophir Road Resource Recovery Centre was coming to the end of its life. Orange City Council engaged Consulting Engineers Geolyse who are based in Orange to design the new cell.

The new cell was on a 1 in 3 slope extending 60m and partly covered the existing landfill cell. The design called for a Geosynthetic Clay Liner (GCL), a drainage net to provide leachate collection and a geotextile protection fabric.

Following the design phase a tender was called for the supply of the necessary materials. Geofabrics Australasia offered the following products.

- **ELCOSEAL® X2000** product or the GCL
- **GMFL4 Flownet™** for the drainage net.
- **bidim® A34** for the geotextile fabric.

The Flownet™ GMFL4 is a biaxial high density polyethylene drainage net with a geotextile heat bonded on one side and a low density polyethylene film heat bonded to the other side.

Following tender evaluation by Geolyse and Orange City Council the supply contract was awarded to Geofabrics Australasia. The materials were supplied in July 2007. Orange City Council decided to let a contract for the installation of the liner and drainage net. The contract was awarded to Curtis Barrier, who commenced the installation in December 2007.

Geofabrics supplied the dispensing frame for the installation and a carpet prong for moving the rolls around on site. Because of the slope length and grade, anchor trenches were installed at the top of the slope and half way down the slope. The leachate was channeled down the **Flownet™** into a gravel layer at the base of the new cell. A perforated pipe was used to collect the leachate and convey it to a holding pond.

The installation was complete in February 2008. The new cell is expected to extend the life of the Ophir Road Landfill by 8 years, after which a new regional landfill will be commissioned.

For more information on the products and services provided by our technical sales team, please contact David Morgan on d.morgan@geofabrics.com.au

Taylor's Road Landfill - 'bidim® meets the specifications...'

SITA Environmental Solutions (SITA) owns and operates some of Australia's most highly engineered solid waste landfills. Secure, engineered landfills are the community's best management option for those wastes that cannot yet be recycled or reused.

Taylor's Road Landfill in Lyndhurst provides responsible management of wastes from households, businesses and industry in the eastern and south-eastern regions of Melbourne. Recently a new municipal waste cell, Cell 20, was constructed. The cell has a composite liner design that incorporates 1m compacted clay and 2mm HDPE plastic geomembrane to ensure the

integrity of the project. To ensure the plastic geomembrane was not punctured by the gravel drainage layer, a geotextile, **bidim® A64** was used as a cushion layer. Due to the critical nature of the protection layer, the consultants, Golders Associates, required QA with a minimum test frequency of one test for every 25,000m² supplied. This is a much higher frequency of 1 batch test per 50,000m² as recommended in A3705-2003.

Geofabrics Australasia was able to meet this demanding testing regime and was able to supply **bidim® A64** in full, on time and to specification.



By incorporating stringent design and construction Quality Assurance, SITA has ensured that Taylor's Road Landfill - Cell 20 meets and exceeds requirements set out in the landfill's operating license issued by the EPA.

Geofabrics was pleased to provide world class Australian Made products, with stringent quality control to ensure the best outcome for the client.

For more information on this project contact John Goumas on (03) 8586 9100 or email j.goumas@geofabrics.com.au

Staff Profile



Meet Cory Hoelsing!

Upon completing his studies in Structural Engineering at the University of Nebraska in 1993, Cory decided to forgo diving straight into his chosen career for a taste of life experience he believed could only be attained through world travel.

After more than a 3 year escapade through some 18 countries, Cory found himself in Australia and loved the Australian way of life. So he moved with his young family to a life in the tropics, and now calls Townsville, North Queensland home, as Sales Manager for Geofabrics.

Cory draws on more than 10 years experience in Operations and Business Management in North Queensland, aiming towards re-establishing the customer focus of his team in the far north.

Cory says; "It is an exciting time; as we are seeing unprecedented growth in population and infrastructure in the region.

'Bonville Golf Resort'

Welcome To The Most Beautiful Golf Course...

Nestled at the foot of the Great Dividing Range, just south of Coffs Harbour is the Bonville Golf Resort. It's no wonder the course has been voted "the most beautiful golf course in Australia" and the number one public access golf course in New South Wales for a fourth successive year, by The Golf Course Guide.

The Par 72 championship course rises and dips through elegant strands of rainforest, each fairway isolated and private from the next.

Superintendent Chris Neal and his team have the arduous task of presenting the course in outstanding condition on a daily basis so as to justify it being Australia's most beautiful golf course.

Chris is currently undertaking a long term bunker program which

has involved re-shaping walls and improving drainage which also included the installation of **BunkerMat®**.

As the pictures show, Chris has installed the **BunkerMat®** perfectly.

Since installation of the **BunkerMat®** the course has had some 805mm of rainfall from the 1st of January to the 21st of February which is over half of the annual rainfall.

Comment from superintendent, Chris Neal.

"The good news is our new bunkers fitted with Geofabrics BunkerMat® performed outstandingly with little or no maintenance required after the heavy rains".

