

## Building Sandcastles – ESD revegetates sand mines into frog habitat

ESD client, Australand, have shown their commitment to protecting Kurnell's sand spit environment. Building frog ponds, planting 100s of 1000s of native plants and using recycled water and bio-mulch, this developer has shown it has a heart of (green and) gold.

The site known as Cronulla Business Park has a high environmental value being adjacent to Botany Bay and remnant Kurnell dune vegetation. It is also a bastion for a small and vulnerable colony of Green and Golden Bell Frogs. So it was especially important to create a permanent replacement habitat for them. ESD Landscape Contractors have built three frog ponds, providing the frogs with a food source and creating a natural and sustainable environment for insects, frogs, reptiles and birdlife.

ESD have had extensive experience in such environmentally sensitive work dating back to 1999 when they built the replacement GGBF habitat in the Brick Pit and Kronos Hill at Sydney Olympic Park. That's *the edge* we bring to environmental projects.

### Some of the Challenges of Cronulla Business Park

- 26 hectares of sand
- sodic soils
- 35-degree slopes
- almost constant strong prevailing winds off the ocean causes shifting sands and impedes plant establishment
- special equipment required for working in the deep sand
- importation and installation of 20,000m<sup>3</sup> of planting media
- provenance plants were to be sourced and propagated
- planting and establishment of 400,000 plants within short construction windows with limited water
- stringent environmental standards monitored by the EPA and local authorities must be maintained
- the existing population of the endangered Green and Golden Bell Frogs had to be protected and allowed to proliferate



Construction work by ESD at Cronulla Business Park.



Cronulla Business Park—ESD works Stage 2.

ESD's experience and capacity to work as part of the construction team has enabled all these challenges to be overcome.

*"Supervising the project took a lot of skill, a lot of trust and a lot of basic good humour."*

Says Landscape Architect James Delaney, Director of Mather & Associates

My role is as Landscape Architect for the project and Landscape Superintendent in the administration of the Landscape Contract being undertaken by ESD for Australand at the Cronulla site.

After many years of consultation with Sutherland Shire Council, a court case approval was given by the Land & Environment Court subject to some very stringent environmental controls to develop a Business Park on part of the site.

James explains the main challenges in more detail.

*"The main challenge achieving the landscape rehabilitation has been with the delays in the civil works due to site issues. The original construction program had to be revised and the locally indigenous plant collection and propagation works undertaken were unfortunately lost. It became an exercise in flexibility and rapid response. Fortunately, ESD were cooperative in both respects."*

*The next main challenge has been the environmental conditions on site. It is a very harsh site with strong salt laden prevailing easterly winds. Without the correct wind protection measures in place, large amounts of sand can quickly blanket newly planted areas."*

*The third main challenge was the scale of the project - more a problem for ESD than me. The logistics in getting large volumes of composts and mulches onto an otherwise sandy site where large trucks become very quickly bogged was a tribute to the coordination efforts of both ESD and BMD."*



Steep and high sand dunes covered in growing media by ESD at Cronulla Business Park.

#### James Delaney details the solutions:

The solution was to ensure that a) our own landscape documentation was solid and not to open to interpretation, and b) to choose the right contractor for the project - one that we knew we could work with and that had the skills and the tenacity to see the whole process through to completion. ESD has proved to be flexible and able to respond quickly to sizeable tasks dropped on them at short notice.

Secondly, to ensure that we could control the wind erosion progressively and in a timely manner, that is, as soon as an area became available for rehabilitation. This meant quickly incorporating composts into the soil and mulching the site or installing wind protection fences to disrupt the flow of the prevailing winds.

Thirdly, good working relations between and amongst the teams. There is good coordination between ESD and BMD and we all so far have managed to keep our sense of humour.

Recycle as much water as possible and establish ground water bores. A system of ponds and water-proofing water courses with plastic skins combined with wise water use, like watering at dusk, helped conserve the water consumption.

#### Why was ESD chosen?

The tender process was very very tight with the lowest four tenderers being within a few thousand dollars. This project was going to require very tight environmental controls and sympathy for environmental issues that I believed ESD had well demonstrated in their work at the Green and Golden Bell Frog habitat in the brick pit at Sydney Olympic Park.

Also, it required a company that could undertake large broad scale landscape rehabilitation projects and ESD had demonstrated they could handle these scale projects with their work on the M7 Tollway.

Further, we had worked with ESD on a number of previous projects and all of these had worked out amicably.

James Delaney  
Director of Mather & Associates  
Ph. 02 9564 1186

At ESD we get a buzz out of giving our clients *the Edge!*

The team at ESD Landscape Contractors thanks James for his contribution and kind words. We enjoy being part of the Australand team on site.

## A little bit about the Green and Golden Bell Frog

Dr Arthur White, president of the New South Wales Frog and Tadpole Study Group (FATS) and a research associate at the Australian Museum, worked on the Olympic site to help save the Green and Golden Bell Frogs from extinction.

Green and Golden Bell Frogs traditionally used coastal lagoons as breeding sites but these have progressively been drained, filled-in or polluted to a point where they are no longer suitable for the frog. Dr White said another problem is the fact that exotic fish introduced into the rivers of Eastern Australia - in particular the Top Minnow, Plague Minnow and Mosquito Fish (*Gambusia*) - like to eat Green and Golden Bell Frog eggs and tadpoles.

Curiously, while most frogs like clean, quiet, undisturbed environments, there's nothing a Green and Golden Bell Frog loves more than an old brick pit or a disused quarry.

As Dr White explains, the trouble with liking 'lovely clean swamps' is that everybody else likes it as well. "Green and Golden Bell Frogs are known as a colonising species, they're constantly on the move looking for a new home," he said.

One of these sites is the former quarry that is now to be the Cronulla Business Park. ESD is proud to be again playing part in the frogs' rescue applying our *Edge!* of knowledge and skills to build replacement habitat.

## Want to give frogs a helping hand?

Frog ponds are easy to establish in most backyards or school grounds, and they provide a much-needed frog habitat. Initiatives, such as fostering frogs who have travelled across the country with farm produce, frog relocation programs and a busy frog rescue service are all part of the work of bodies such as the [Frog And Tadpole Study Group](#) (FATS).

No matter where you live, FATS can provide all the frog advice you need to create a frog-friendly environment for your local frog species.

Contact FATS via email, or write to them (PO Box 296, Rockdale NSW 2216) or just check out the FATS web site - [www.fats.org.au](http://www.fats.org.au).

Source: [www.abc.net.au/science/scribblygum/March2001/default.htm](http://www.abc.net.au/science/scribblygum/March2001/default.htm)

At ESD Landscape Contractors we have the knowledge and know how to deliver outcomes on your environmental projects. We'll be arranging a tour of some of our sites soon, so if you're interested in seeing first hand what gives us the edge in constructing environments, simply register with Robert Griffith (0421 389 800 / [rob@esdland.com.au](mailto:rob@esdland.com.au)) or Jeremy Winer (0425 278 524).



Frog pond at Cronulla Business Park.