SYNERGY

THE TERRACOTTEM ADVANTAGE

29

LEARNING LANDSCAPES

Great playspaces are about nature-based, sensory experiences - something achieved here in phase one of the refreshed St Catherine's junior school.

A great deal is demanded from the outdoor space that surrounds a school. Think back to your own primary and secondary years and you'll likely remember: the spot where you sat to eat lunch; the places where you played till bell-time. Since most of us obviously develop an appreciation of the living environment during these years, it's worth making the most of school zones through creating some thoughtful landscape design. What follows is a close look at some recent work within a Melbourne girls' school…

Smart design solves problems and creates opportunities: in the spaces between the senior school buildings, healthy trees will provide shade for flexible seating in years to come..

ACLA Consultants does the sort of work that reaches many people via parks, playgrounds, urban design, sports, aged care and educational institutions. Josh Chia is an associate there, and it was he and his team who have been – and still are – working on the various precincts within St Catherine's School.

The works span both the senior and junior schools. In the senior school the response was to work alongside the architect to maximise the potential of the external areas between the existing and proposed buildings. The junior school playspace area was also refreshed and more is planned in the near future.

"Our brief in the senior school was to design a highly-integrated, functional and resilient external environment to complement the new facilities which include the new library and senior learning commons, science building and social hub. The landscape design focused on providing strong connections to the built facilities; increasing the structures' sustainability; softening the visual bulk with greening; and creating pleasant spaces for students and staff to escape the confines of the classrooms."

In other words, the team needed to creatively direct traffic through spaces that were to function as more than just default corridors between buildings. What has been achieved is lovely.

"The large decked area off the new library has pergola beams covered with deciduous climbers where library users can drift outdoors. We've planted a bosque of pears in the science courtyard with custom designed S-shaped seating so there are endless options for students to sit, both individually and in groups." The same seating caters for spill-out lessons from the science classrooms nearby and the sense of connection between in and out is strong everywhere given the amount of façade glazing.

Of course with increased amounts of glass come increased heating and cooling burdens. This the landscape design team addressed by incorporating a tensioned stainless-steel cable system to the building façades, which was then planted with more deciduous climbers to allow sunlight in winter and cooling in summer. And the problem solving didn't stop there.

In the bosque, it was obvious that if traditional paving had been installed, compacted soils would have likely posed a constant stress on the new trees. Instead, interlocking permeable pavers were laid over a network of structural cells. The cells hold up a surface of honed aggregate paving, beneath which sits an artificial soil profile. From top to bottom: pavers, a permeable drainage layer, geotextile fabric, amended soil (with TerraCottem added), another geotextile layer and a base drainage layer. In this way Josh estimates the new forest shares an airy, nutrient-rich and water-available root zone of roughly 60m3. "We use TerraCottem because we feel confident that it improves growing conditions, which is particularly important during the establishment phase, while also reducing the reliance on irrigation", something any project would want, but especially so where the engineering is as complicated as in this case.

As for the junior school, phase one of a refreshment of the play-space area is now complete. The aim here was to complement the existing equipment with additional nature based play and seating areas. Mud rocks, geometrically-sculptural wood seats, steps, meandering paths and a significant amount of planting including bamboo forest have created a sensory transformation.

Given Josh still visits the school as part of the next phase of the project, he's able to watch these new spaces at work. "My satisfaction in designing landscapes is through positively improving people's wellbeing and enjoyment of being outdoors, while at the same time safeguarding our natural environment. A large part of this satisfaction is seeing how the landscape is inhabited and how it evolves following the rigorous design and construction phases."

Avoiding pitfalls, the new trees have been given ample access to an artificial soil profile, well protected from compaction. Here structural cells go in ahead of the permeable pavers.

THE TC ADVANTAGE

TC Advantage is a package deal. It's about supplying TerraCottem (more about that in a minute), along with all the training, technical specification and compliance needed to turn a tricky project into a genuine long-term success. So when anyone has a turf, street tree, revegetation or whatever project to tackle, bringing in the TC Advantage expertise means you get: advice on which TerraCottem product to specify; training so that it's applied for maximum benefit; and monitoring to ensure compliance within the project's specs.

As for TerraCottem, it's a brilliant soil conditioning treatment because it works on various fronts at the same time...

To start with, it uses two main mechanisms to encourage substantial root development – polymers and root growth precursors. The polymers are a little like water-holding crystals except that TerraCottem's hydroabsorbent polymers have been carefully selected and well researched. This means that instead of just one polymer with a narrow water-holding and water-releasing ability, there is a group of them providing the same function over a wide range, for years. To put it crudely, more water can be stored and released under a broader variety of conditions. (To put it precisely for specification purposes: TerraCottem has an absorption capacity of a minimum of 4500 g H2O/100 g in distilled water using Method of Analysis CEN EN 13041, with a minimum of 90% of the water contained in the polymers being plant available.)

As for the root growth precursors, by definition a precursor is a chemical compound which leads to another. The precursors found in TerraCottem do exactly this, and for a very good reason. If you put growth hormones into soil, they rapidly biodegrade. But if you put precursors into the root zone, the plants get a kick-start by synthesising their own growth hormones. And this conducive environment – for optimum cell division and elongation – stays like this for 12 months.

Then there is a nicely varied collection of plant nutrients – soluble mineral fertilisers, in a format suited to the early growth phase of a plant; slow-release fertilisers, designed to offer a constant source of food over many months; and synthesised organic fertilisers which focus on the soil, stimulating microbiological activity and general soil health.

Add this all together and the result is fast and furious root establishment. This means greater accessibility to water, fewer losses, and, given the reciprocal dynamic between roots and canopy, noticeably vigorous growth. In the longer term, the soil conditioning power of TerraCottem means that plantings are buffered from stress. It's great stuff.

TERRACOTTEM®

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