



Excess water from the storage tanks flows through swales, watering the garden and retaining all water gathered on site

Meadows Primary School is a community's hub

Sustainable design principles underpin this successful new build

In the eight months since Meadows Primary enrolled its first students in March, the school has become the new hub and a source of civic pride for the community in Broadmeadows, a blue collar suburb 20 minutes north of Melbourne's CBD.

The school is the outcome of the 2009 merger of Meadowbank Primary and nearby Campmeadows Primary, a pair of run down 50-year-olds that Principal Robert Greenacre describes as: "Built in a hurry and never quite finished... old, cold and tired."

Greenacre says that bringing together the schools' students and parents was "the hardest thing I have ever done, people take time to accept change." Inevitably, some families drifted away, especially those that were already driving

up to 30 minutes to drop children off. But falling enrolment is now history, he says, with 270 students enrolled when the school opened its doors in March and 300 expected in 2012.

"The design capacity is 375 and we will reach that total; we can't grow further because we have already used up every square centimetre of the land"

Reflecting the changing ethnic mix in the local community, the ratio of Anglo-Celtic families with children at the school has declined to around 50 per cent in recent years and continues to fall. In their place are Samoans, Arabic and most recently African children, who between them speak more than 15 languages at home.

"House values in the area have doubled in the last six years and there's a general air of

a community that's on the move... and we're seeing the same sense of energy in our new school," Greenacre says.

Given the high proportion of ESL children, NAPLAN results haven't been spectacular, though he points to "dramatic gains in Writing this year... we're working on Spelling and Grammar; we have a dedicated oral language teacher, plus two Arabic speaking teachers aides, so we'll see big improvements."

The school is busy from early morning through into the evening; up to 30 children arrive for breakfast club, operated by Melbourne City Mission; there are many after school activities; and the school's 450 capacity hall is available for use by the community after school.

For working parents, there are cooking



Principal Robert Greenacre

and computer clubs too, and there's an onsite kindergarten, which is run by Broadmeadows Uniting Care; in response to community need the number of three and four year old playgroups has already been increased.

In line with the school's 'everyone's welcome' credo, a parents welcome area is a space to meet and has been an instant success; there's a Stephanie Alexander Kitchen Garden for the children and a new community garden for parents too.

And there's music. The Pizzicato Effect is a partnership between the school and the Melbourne Symphony Orchestra. Currently in its third year of operation, the program now sees more than 90 students in Years 2, 3 and 4 actively learning violin, viola and cello. The MSO provides the instruments and musicians give weekly lessons.

Given a free hand to choose who would design the school, Meadows Primary selected NOWarchitecture, a Melbourne practice with credentials in environmentally sustainable design.

"We didn't want to go to one of the big practices," Greenacre says. "We wanted to work with a firm that we could talk to and would listen to what we had to say."

The outcome of this relationship is a school that not only works as a centre for learning but also ticks all of the sustainability boxes... to the extent that it seems set to become the first Six Star Green Star school in Victoria.

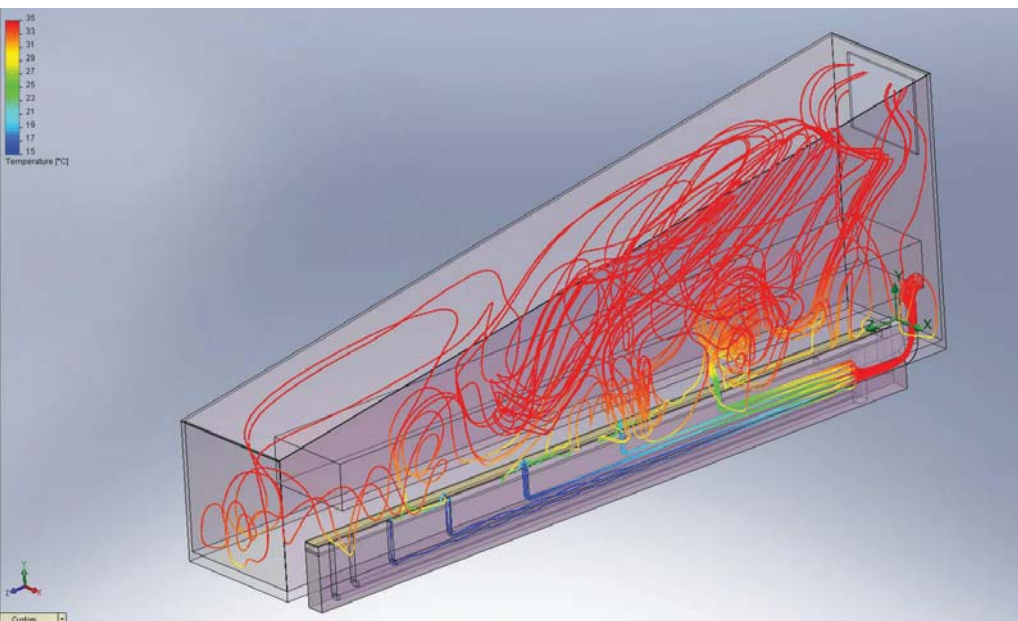
NOWarchitecture's Neville Cowland says that the psychological and physical aspects of

a building's design are top of mind for all of the firm's projects. At Meadows Primary there was a conscious decision made not to put up fencing around the school so it would seem inclusive, "vandalism has dropped to virtually zero," he says.

The term 'sustainable' is at risk of becoming a bit hackneyed, but NOWarchitecture walk it very much as they talk it, 'sustainability' has been at the core of their practice for 27 years. Each project's specifics are assessed and considered in the design, with a point of commonality in a focus on natural light and natural ventilation, cooling and heating.

Beneath the school, 28 tanks with a combined capacity of 717,000 litres are used to store rainwater. The water is used for lavatory flushing and to irrigate the grounds. Simultaneously, the energy stored in the water warms and cools the buildings; fresh air is drawn through void formers in the tanks and into the building where it rises by convection and is vented under the roof line.

"We haven't experienced very hot summer days yet," Greenacre says, "but on cold winter



Air conditioning via convection, the building is coolest where the people are

mornings when the external temperature was four or five degrees, the school was a comfortable 18 degrees, so we know that the thermal mass concept works well.”

In tandem with the three vertical windmills in front of the school, architect Neville Cowland calculates that the annual electricity saving will be in the order of 23,000 kW hours and the school will use in the order of 76 per cent less power than a conventionally cooled and heated building of the same size.

The architects describe the building as being: “Defined by a repetition of 17 metre square building modules with a soft organic shape defined from their square origin by a direct relationship to their structure. Each of

these modules comprises four internal tree-like columns which branch out to support a softly folded roof. Light is brought to the centre of the volume by four skylights, each positioned above the centre of their respective tree. The high ceiling introduces air flow throughout the building by allowing hot air to rise above the habitable level of the space and exit out of the skylights and perimeter high level windows to improve thermal comfort and quality of air.”

Translated to layman’s terms, the columns are there to hold the roof up, but Judith North, a member of the NOWarchitecture team says she likes how the children see them: “They have taken to decorating the columns, dressing them up as trees.”



Solar cells double as roofing



A dual external membrane provides light and contributes to ambient temperature in the school’s hall

That sums it up really... Meadows Primary is a new school, set in a community in change, where creativity and imagination are being given every opportunity to flourish. **ET**



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