

VISION

ORIGAMI POOLHOUSE

Hawthorn, Melbourne

STANDING OVATION

School for Performing Arts and Creative Education,
Geelong Grammar School

CONTENTS



CLICK TO VISIT
THE ORIGAMI POOLHOUSE

04

ORIGAMI POOLHOUSE

Hawthorn, Melbourne

A wing-like roof and sliding walls of Viridian Thermotech™ glass release this poolhouse into the all-season oasis. An aerodynamic design and glass wrap forge light, lighter, lightest. Forget indoor pools as chlorine filled, artificially-lit chambers, this brings the outside in and projects the inside out.



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CLICK TO VISIT THE
PERFORMING ARTS SCHOOL

20

STANDING OVATION

School for Performing Arts and Creative Education, Geelong Grammar School

Living up to its title of 'performing arts and creativity' Geelong Grammar's newest asset is a slick design with an ensemble material line-up including Viridian Profolit™, Seraphic™ and SolTech™ to deliver a virtuoso performance.



OPPO



CORE PRODUCTS



ENERGY



NOISE



CLEAR VISION



DECORATIVE



BUSHFIRE



STRUCTURAL



STORM



SECURITY

PROJECT
Origami Poolhouse,
Hawthorn, Melbourne

ARCHITECT
MADE Architecture

PRINCIPAL GLAZING
Viridian ThermoTech™

TEXT & IMAGES
Peter & Jenny Hyatt



ORIGAMI
POOLHOUSE

Mediterranean sea-caves, Japanese origami and a North American mid-century glasshouse are all clues to this jewel-like swimming pavilion. Tucked away in suburban Melbourne, its lightweight aesthetic and folded planes defy the stampede towards construction of epic scale.

MADE Group's poolhouse is a virtual tip-toe across the lily-pads such is its finesse and the way it transcends mere utility for super poise and elegance. Located in suburban Hawthorn where houses of mausoleum proportions are becoming the norm, the poolhouse strips down to its six-pack and the bare essentials.

Enclosing an existing pool, its X-ray structure ensures year-round family use instead of the seasonal plunge. Rather than endlessly heading to the local pool, the owners save themselves the drive and now swim, bathe and enjoy pavilion life throughout all seasons.

Convenience to one side, the design follows in the great tradition of the pavilion as free-standing object of pleasure. MADE's design straddles the water with a pitched, vented roof and sliding, operable walls along three elevations for sublime counterpoint.







Fully sliding glass walls eliminate any sense of claustrophobia while managing interior air pressure for optimum bathing comfort

Such glazing offers brilliant sun-drenched transparency when closed—or in maximum aperture mode, as giant, cooling breezeway. Either way, it's a full sensory experience to harness, rather than deny the elements.

Vision's Peter Hyatt spoke with MADE architects Colin Beanland and Michael Huynh about ideas, technology and a pavilion as truly immersive environment.

This is such a lightweight building. How did it come to pass?

COLIN BEANLAND: We wanted to maintain as much of the garden as possible. The idea was to create a folded form that provided shelter and opened up completely during summer and closed in winter. We recognised the importance of visual permeability which explains why there is so much glass.

It's such a simple, un-fussed material palette which contrasts so much of the neighbourhood.

MICHAEL HUYNH: The inspiration was to connect with nature so the materials we chose were raw and textural. In terms of the form and shape we did some studies on cross-ventilation and lighting during summer and winter and so it was really about working with the elements at all times of the year.



IT WAS TAKEN FROM THE IDEA
WHEN I WAS KAYAKING ON THE
COAST AT LAGOS IN PORTUGAL.
YOU GO THROUGH THESE SEA
CAVES WITH REALLY LOW CEILINGS
AND ALL OF A SUDDEN A HOLE
OPENS UP TO THE SKY. IT WAS
A BEAUTIFUL EXPERIENCE.

Michael Huynh, Architect





And of course there's the whole Japanese element of origami you acknowledge very openly.

MH We took the idea of origami as very light and floating. This pool is very much like a pond, and so from that we took the idea of folding planes to create a really light, permeable structure. The second idea was the sea cave with varying spatial volumes. At one end there is a more intimate space with the low ceiling. On the other end it opens up completely and daylight pours in. It was taken from the idea when I was kayaking on the coast at Lagos in Portugal. You go through these sea caves with really low ceilings and all of a sudden a hole opens up to the sky. It was a beautiful experience.

This is technically and creatively a really elegant solution. Tell me about your rationale for glass?

CB Glass was quite fundamental to our concept because the whole idea is for physical and visual permeability. Glass played an integral part in the visual permeability, especially in winter, because the idea was that it was firstly a light, flowing form. We wanted a very subtle, elegant result inspired in part by Philip Johnson's glass house. It's just the really light, slim-lined form with glazed walls and glazed ceiling. We looked into a few systems for the ceiling that provided insulated properties so that's why we went with Viridian ThermoTech™. We engaged a mechanical engineer to set some parameters for that highly controlled environment—especially in winter mode. The external ThermoTech™ skin together with the Bauer system achieve those high values.



Easy gliding frames assist overall operability while pavilion provides additional platform and seating for social gatherings and pool parties.



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ORIGAMI POOLHOUSE





The ThermoTech™ used in the ceiling is around 40 mm thick. Why such a size?

CB Apart from ensuring the optimum heat retention performance, it's also a very clear product, used throughout for optimum transparency. That thickness also permits easy roof access for any maintenance and cleaning.

What has been your experience with Viridian?

CB Mainly working on residential projects we will regularly call-on their resources to research and supply the optimum product for the purpose. We called them on this project and they were fantastic.

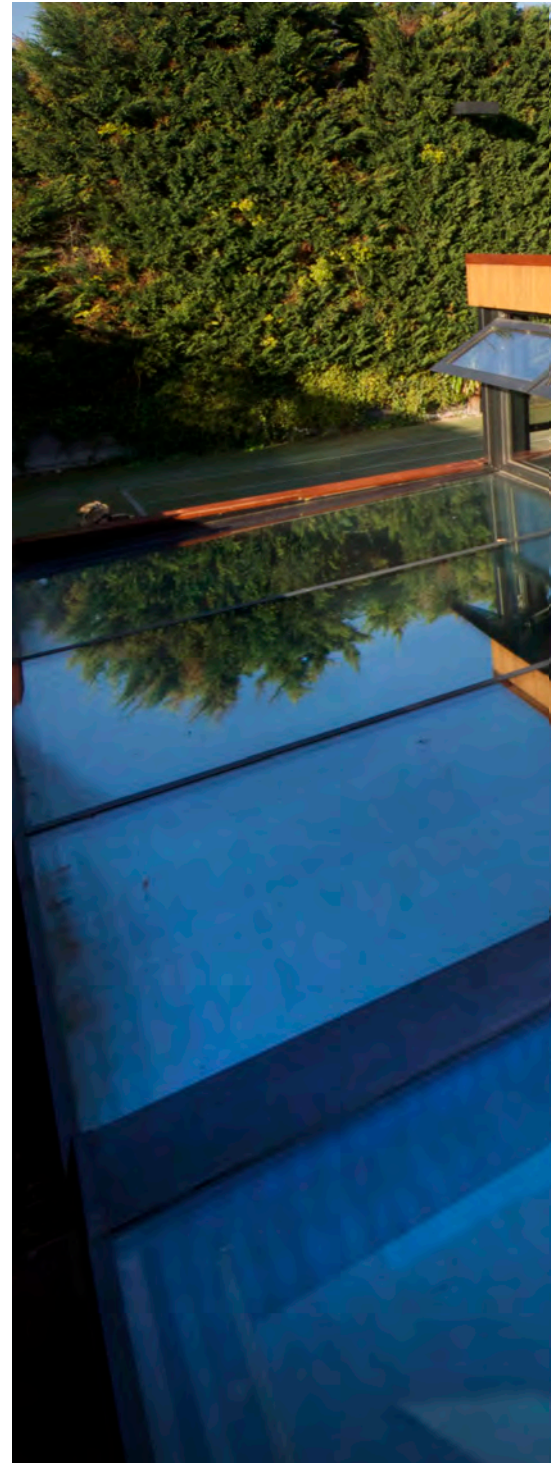
Was this for technical information or product samples?

CB Their engineer performed the calculations needed and that information, along with samples, became part of the building process, so Viridian's input was quite invaluable.

Anything else that informed or inspired you?

CB We wanted a quite sculptural result much less like a building and more like a piece of art in the garden.

Viridian ThermoTech™ roof panels are tough enough to carry foot traffic for maintenance while clear enough to admit high levels of sunlight.



GLASS PLAYED AN INTEGRAL PART
IN THE VISUAL PERMEABILITY,
ESPECIALLY IN WINTER, BECAUSE
THE IDEA WAS THAT IT WAS FIRSTLY
A LIGHT, FLOWING FORM.

Colin Beanland, Architect



The pavilion's sea-cave form and origami origins are clearly exhibited in the folded ceiling planes.



Modern building often sees clients wooed by mass and weight, whereas you pare it right back to the essentials as expressed and exposed performance.

MH Part of the brief was to respect the existing building and we wanted to complement, rather than mimic or take inspiration from it. We responded to its considerable mass and large, boxy forms because it didn't need a repetition of that in the garden.

Why not just rely on solar heating?

MH This isn't saying: "Let it just sit there and pump solar heated water all day long." Having that enclosure allows us to manage that. That seems to me to be a pretty smart idea, that it doesn't have to be inside or outside. In fact, you've got the best of both worlds. That's essentially the spirit of this as well.

CB There was an existing pool we had to protect. Our clients were sitting here in the middle of winter and the pool is virtually shut down. There was frustration on their part being restricted to so few months of the year.

You use an integrated temperature management system in addition to the sliding walls as doors.

CB Yes, it's known as a Bauer system from Germany and very, very gently introduces air at two atmospheric pressures without gusting like conventional air-conditioning. Those two atmospheric pressures create a blanket over the water to keep any moisture or condensation from rising, so it's a different concept to most other pools that you see in Melbourne.





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WHAT WORKED EXCEPTIONALLY WELL WAS THE CONCEPT OF ARCHITECT-LED DESIGN AND CONSTRUCT. WE CARRIED THROUGH THE CONCEPT AND DIDN'T SPEND A LOT OF TIME NEGOTIATING WITH THE BUILDER TO BEAT A PRICE.

Michael Huynh, Architect

Does it offer any other role than as pool house?

CB If the owners have a party they can easily open up the end wedge for seating and so it interacts with this space and it's no longer just a pool. It becomes a much bigger entertainment space.

What are the lessons beyond this kind of project for commercial and residential that you could transfer elsewhere?

CB We weren't exploring this in preparation for other projects, but perhaps over time when we pull back and realize what we did learn here, we will make use of that.

MH What worked exceptionally well was the concept of architect-led design and construct. We carried through the concept and didn't spend a lot of time negotiating with the builder to beat a price. We had the idea and the clients ran with it, and we had their trust. That allowed us to spend all our energy and focus on delivering the project within budget and in line with the design concept.

Did being the designer and builder bring benefits?

CB As an architect-led design and construct you're in a better position to make value management decisions. It's just how to really get the most bang for your client's buck. If it's led by a builder or someone else who isn't intimate with the design, you risk losing the design over the process. We worked on this as one entity rather than hoping nothing was lost in translation between the designer and builder.

PROJECT

Origami Poolhouse, Hawthorn, Melbourne

ARCHITECT

MADE Architecture

DESIGN TEAM

Colin Beanland & Michael Huynh

ENGINEER

Macleod Consulting

BUILDER

MADE Construction Group

WINDOW INSTALLER/GLAZIER

Thermeco

GLASS SUPPLIER

Viridian

PRINCIPAL GLAZING

Viridian ThermoTech™

SIZE

115m²



STAN
OVA



DING
TION



CORE PRODUCTS



ENERGY



NOISE



CLEAR VISION



DECORATIVE



BUSHFIRE



STRUCTURAL



STORM



SECURITY



A performing arts centre has quite a head start over most building types. It should be beautiful and inspired and quite unlike a dressed up warehouse, or apartment block. The grand gesture too, often heralds disappointment with interiors that fail to match first impressions. Raised expectations and actual delivery is a rare achievement, yet this is precisely what occurs in the traditional, Geelong Grammar School's Corio campus, an hour south of Melbourne.

PROJECT

School for Performing Arts
and Creative Education,
Geelong Grammar School

ARCHITECTS

Peter Elliott Architecture + Urban Design

PRINCIPAL GLAZING RESOURCE

Viridian Profilit™
Viridian VFloat™
Viridian SolTech™
Viridian Seraphic™ Standard

TEXT & IMAGES

Peter & Jenny Hyatt

Peter Elliott's uplifting vision extends throughout. Its folded metal skin and array of glazing contribute to a dynamic form and ever-changing skin, depending upon the time and subtlest inflections of light. Interior planning and finishes maintain the groove.

Considering such facilities deserve a special heartbeat for school and community groups, this brilliantly aligns a taut exterior with a high performance interior. Within the school's village landscape, Corio Bay is a painterly blue strip at the end of the tree-lined avenue. The project appears the work of an origami master with a crisply folded skin and rhythmic glazing for a convincing, if not theatrical, resonance.

[Vision's Peter Hyatt spoke with Peter Elliott about a project that reflects its place and echoes to this architect's abiding interests:](#)

What was your initial focus once you understood the brief?

How we would integrate a number of large boxes to make them look less ponderous than they might otherwise be. There's really an element of disguise in creating the necessary dimension and sculptural qualities to a building that performs its role, suits its place and attracts students, staff and community. We see the two boxes as sister and brother. Rather than identical, there's more of a family resemblance. The smaller box has a regular creased perimeter and the big box, because of its sheer size, appears more crumpled.

Your beautiful Robert Clark conservatory in Ballarat from the late 1980s that comprises a folded glass skin, appears to be an early example of your fascination with origami as form and skin?

That DNA is there because I have a real interest in folded shapes. Those qualities help bring alive what are really a few black boxes. One is glass, the other aluminium and glass, but there are quite a few similarities.

What are some of the qualities that make it successful?

The Play House has a huge floor on one level within that big box with retractable seating for 800. Press a button and the seating disappears into the wall in around 15 seconds. If you need seating for say, 300, just press a button and suddenly there is your seating. It's brilliant. The great advantage of a flat floor is its flexibility in any mode. It can adapt to all kinds of performances. It's set up as a large theatre format for everything from large musicals to smaller productions. There's a bunch of typical back-of-house spaces including change-rooms and toilets.



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PERFORMING ARTS SCHOOL



And the smaller rooms and performance spaces?

Drama-school classrooms double as green rooms. There are also multi-purpose drama spaces, a rehearsal room and ballet warm-up. Typically in a school, you use these teaching components as the back of house to economize on floorspace. The foyer is designed as a student active space. It's actually a classroom.

And the foyer's role?

The founding idea is this open, welcoming glazed corner. Its glass prism shape adjoins two very strong tectonic boxes clad in a gleaming skin. The skins are anodized aluminium with embossing and a number of perforations for a shimmering surface effect. It's amazing how strong that is in all forms of light.

THAT DNA IS THERE
BECAUSE I HAVE A REAL
INTEREST IN FOLDED
SHAPES. THOSE QUALITIES
HELP BRING ALIVE WHAT
ARE REALLY A FEW
BLACK BOXES.

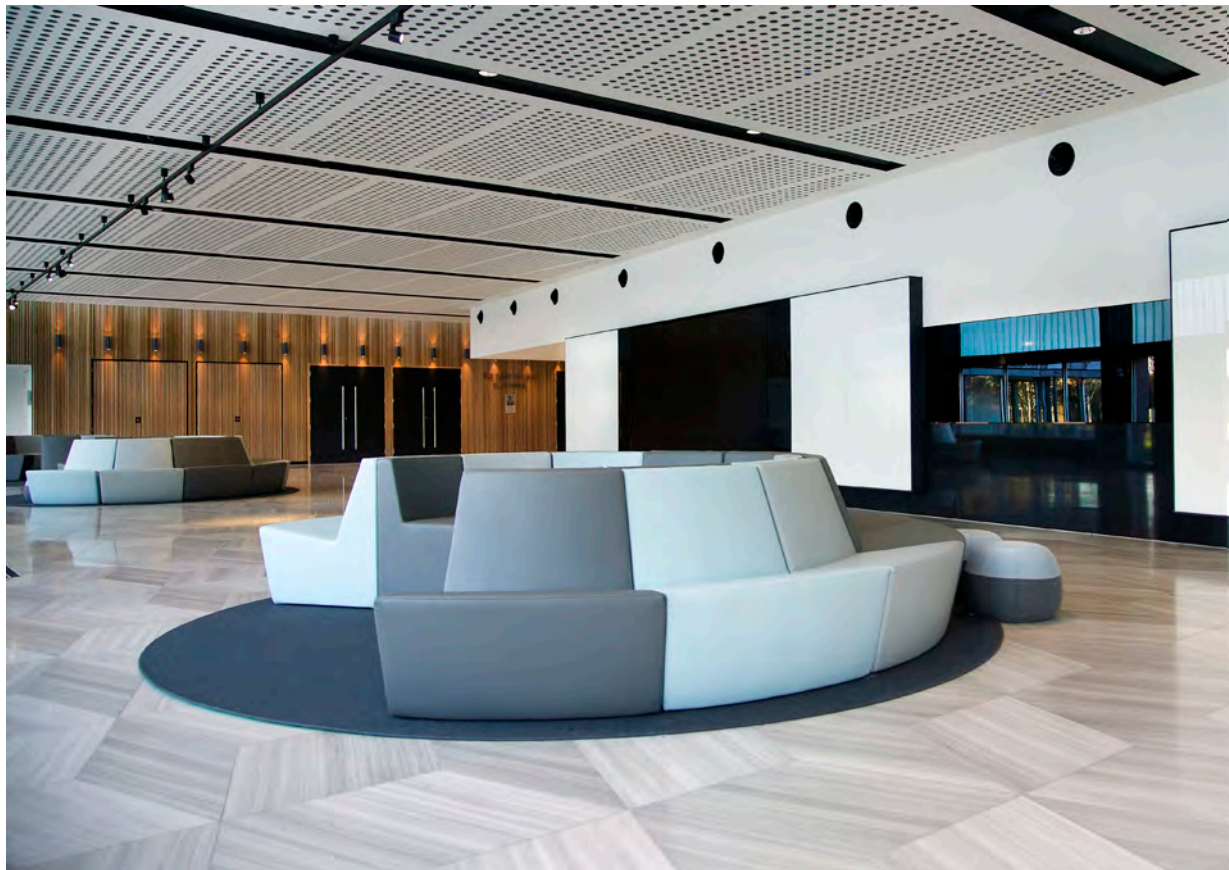
Peter Elliott, Architect



Day to night. The south-west facing exterior of the Play House with its folded aluminium shell and triple glazing of SolTech™ and VFloat™

And you avoid any appearance of educational warehouse. It was vital to reflect its function yet be stylish rather than produce a basic box, or aspire to appear extravagant. These are a highly sophisticated set of buildings and very complex in design and operation. They also tend to be the heart of the school community because it's a centerpiece for special occasions, celebrations and events. These facilities are crucial to the school's cultural life. It has been invested in heavily by the school for almost a generation of deep conversation about the need and form of this project.

How do you find just the right balance between those extremes of warehouse dull and grand posture? There's an inference that it should be a building of high quality without appearing to try too hard. This is the balancing act for the architect, to guide a building that doesn't posture. It is an interesting conversation for schools, because many have high ambitions in this area. There's also the sophistication of many students whose engagement with the creative arts is inspiring.





Viridian's Seraphic™ Standard in Night Sky and Brilliant White Colour-back glazing contributes a reflective lustre in the foyer.

The experience of place is obviously key.

This isn't the Arts Centre in St Kilda Road and isn't the local hall. It has to find itself somewhere in the middle. It still needs a sense of occasion. When visitors arrive at this building as a parent or a student, they experience a certain "wow". It's not overcooked, but it does give a sense that this building treats the idea of dramatic events as part of its assemblage.

Glass has an important role because it's much more than a game of appearances or performance. It has to meet environmental and aesthetic standards in one sweep.

That's true. The south-facing foyer has a significant advantage because it means glass has a reduced heat load problem. Southerly light is much softer and very suited to this large interior volume. We devoted a lot of time to the foyer glazing which is really a very long, linear, wrapping element linking the two main performance boxes.

Did the school have a point of view about your use of glass here?

We were very keen, and the school was enthusiastic about glass because these gathering spaces are used so extensively during the day and shouldn't need lighting to enter that foyer space. I think they were willing to see what we could achieve with the material and were convinced of the benefits.

Profilit™ is a very distinctive product and treatment.

It is beautiful. We have tried to use it on other occasions and so are very pleased to finally do so. This installation is perfect. It's an interlocking, double-plank system with excellent thermal performance with a very soft, diffused light. The idea is a low-level viewing window with a continuous seat inside and out. People typically gravitate to the edges and here they are really beautiful. The foyer links to the landscape which is a sea of green. The LED back-lighting to the Profilit™ makes the floor and ceiling appear to hover.



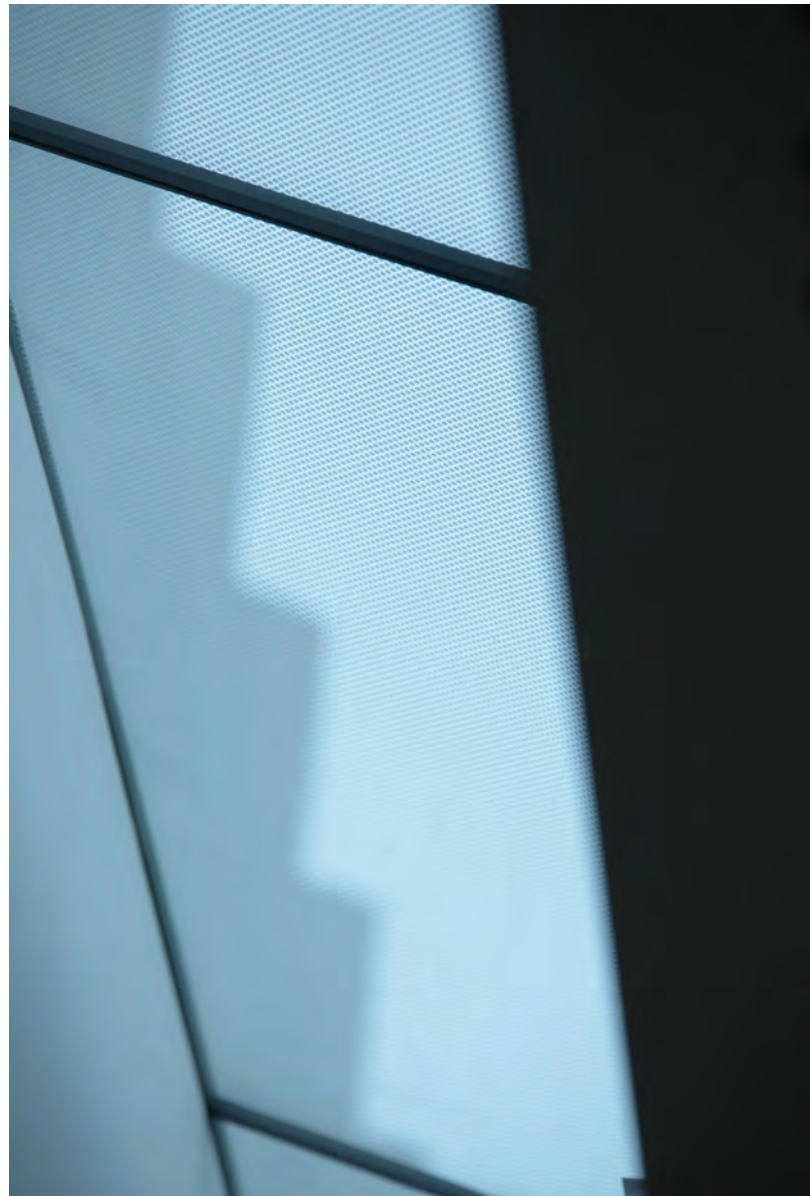
Profilit™ and Seraphic™ contribute to subtle textures and light qualities throughout.

Builders often treat glazing as the left-over space in the wall while architects are inclined to see glazing as an opportunity to invest in the building. Is that your take on it?

Even though it's a facility that fundamentally requires enclosure, we definitely recognized the importance of glass. Our large foyer is a delightful space that glows during the day without the need for artificial lighting. On an evening it glows like a jewel. From the top of the theater there are glimpses into the landscape and the glazing allows a diffused light throughout. It's quite a dramatic space even without a performance underway. Viewing windows to the north and highlight windows to the south permit natural ventilation through the space.

THIS INSTALLATION IS PERFECT. IT'S AN INTERLOCKING, DOUBLE-PLANK SYSTEM WITH EXCELLENT THERMAL PERFORMANCE WITH A VERY SOFT, DIFFUSED LIGHT.

Peter Elliott, Architect









Perforated metal screen and large sheets of VFloat™ usher veiled light into the main foyer/staircase. Two central performance spaces.





Did Viridian provide helpful technical support?

Typically we involve them for their expertise with glass specification and supply because, frankly, there's so much to go wrong with any building—especially with one so complicated. Viridian was in a position to deliver and it's an exceptionally pleasing result. We were really reassured by their level of service. We always insist on samples because with a specialized glass there's a level of anxiety, but they definitely facilitated Profilit™ and their other products as part of a very smooth chain of events.

What are the other key glazing strategies?

The Viridian VFloat™ double-glazed units to the foyer glazing under the Profilit™ and the classroom and the backstage glazing. That's the typical default glazing and then there's triple glazing in the Play House and Studio windows and Profilit™ along with Viridian's Colour-back glass range in the foyer that add subtly to that experience of reflected light. The glazing isn't vast in relation to the overall project, but what we have is highly effective in shaping the way key spaces feel. The Play House and Studio windows are triple glazed with Viridian SolTech™ Clear and Viridian VFloat™. The Viridian VFloat™ is a toughened laminated third skin to essentially stop noise penetration.



OUR LARGE FOYER IS A
DELIGHTFUL SPACE THAT GLOWS
DURING THE DAY WITHOUT THE
NEED FOR ARTIFICIAL LIGHTING.
ON AN EVENING IT GLOWS
LIKE A JEWEL.

Peter Elliott, Architect



Any moments of fear, or high anxiety?

When the first concrete panels went up there was a sort of sigh of horror around the school. The general sentiment was: "Is that what we're getting, a factory?" But once the outer skin went on, everyone was just delighted. It demonstrates how you can transform a dumb concrete box into a shimmering delight. It's typical of the work of our practice. It's disciplined and nuanced, rather than appearing to be try-hard. There's a lot of sampling and trialing with all of our materials.

Any other influences of note?

What influenced this almost more than those earlier projects is our freeway work. We've done a lot of very large-scale walls in a freeway setting and to hold one idea effectively and powerfully is quite exciting.

PROJECT

School for Performing Arts
and Creative Education

CLIENT

Geelong Grammar School

ARCHITECT

Peter Elliott Architecture
+ Urban Design

PROJECT TEAM

Peter Elliott, Jude Doyle,
Geoff Barton, Daniel Bennetts,
Juliet Maxsted, Jonathon Wong,
Amy Hallett, Justin Mallia

BUILDER

ISIS Group Australia

STRUCTURAL ENGINEERING

ARUP

GLAZIER:

Menzel Glass

WINDOW FABRICATOR:

West Coast Windows

THEATRE & ACOUSTIC CONSULTANTS

Marshall Day

PRINCIPAL GLAZING RESOURCE

Viridian

PRINCIPAL GLASS COMPONENTS

Viridian Profilit™
Viridian VFloa™
Viridian SolTech™
Viridian Seraphic™ Standard
Low-iron Colour-back glass in
Night Sky & Brilliant White
on SuperClear™ TC

BUDGET

\$17.5 million

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Erskine Park 1800 810 403
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North Ryde 1800 810 403
Tamworth (02) 6763 3600
Wollongong (02) 4271 5888

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