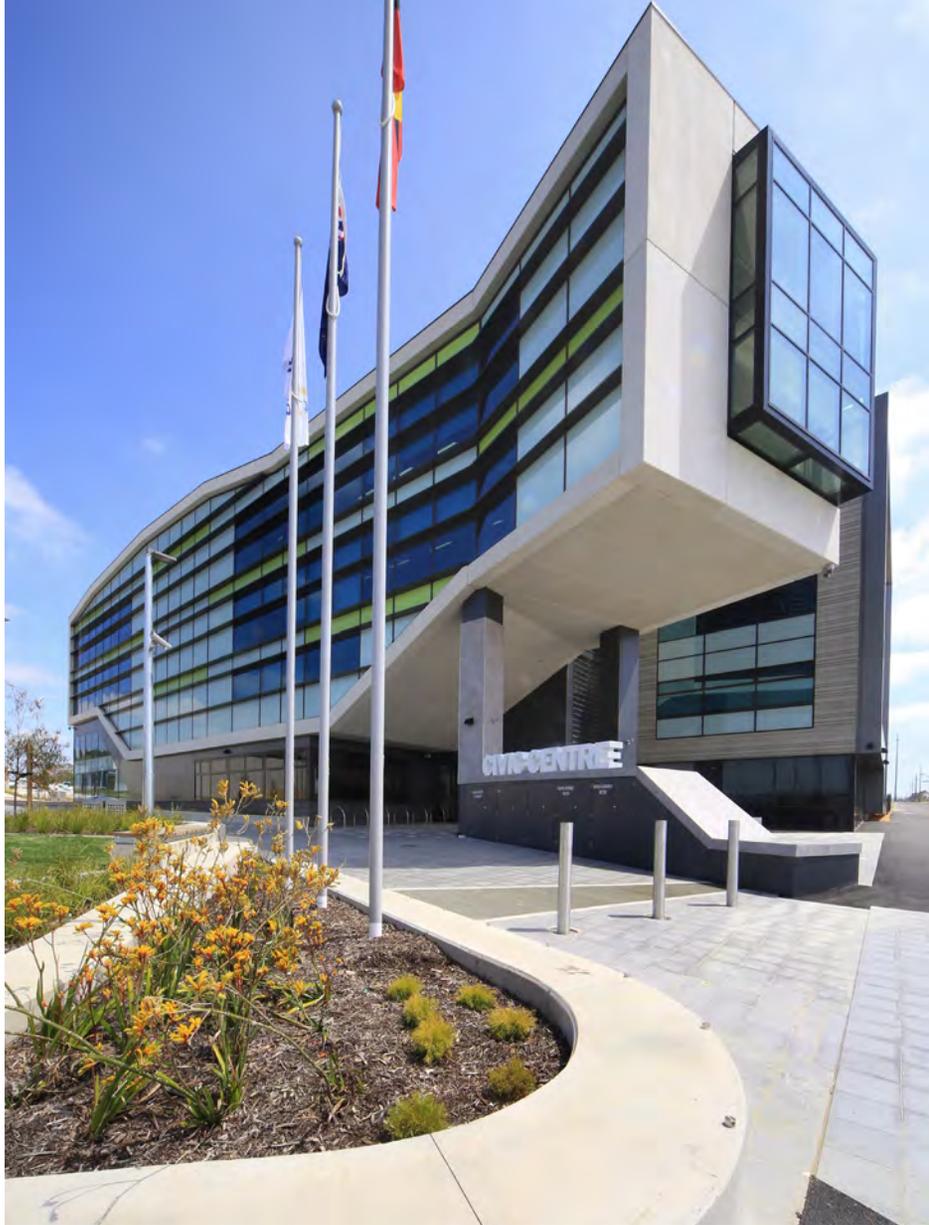


VISION

Rural Revelation
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Melbourne, VIC

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Rural Revelation

Viridian's Clayton team was instrumental in the glazing of Cardinia's new Shire Offices. A broad palette of performance glass defines this prismatic response to place and the future welfare of staff and community.

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Safe House

Despite being tamed by subdivision, much of the Mornington Peninsula's southern arm is shrouded in highly combustible ti-tree. Moody Builders recently addressed the problem with Viridian's PyroGuard 40™ – a specially processed double glazed unit that withstands extreme bushfire conditions.



RURAL



CORE PRODUCTS



ENERGY



NOISE



CLEAR VISION



DECORATIVE



BUSHFIRE



STRUCTURAL



STORM



SECURITY

REVELATION



INSPIRED BY THE GREAT IRON-FRAMED AND GLASS RAILWAY STATIONS, THIS NEW ADMINISTRATIVE HEADQUARTERS MAKES A GRAND APPEARANCE ADJACENT TO A BUSY OUTER-SUBURBAN RAIL LINE. ITS CRYSTALLINE FORM AND DETAILING ANTICIPATES THE INEVITABLE URBAN SPREAD WITH QUALITY AND CONVICTION.

Cardinia Shire Offices,
Melbourne, Victoria

Architect: DesignInc. Melbourne

Principal glazing resource:
Viridian Viridian EVantage™
SuperBlue

Images & Text:
Peter & Jenny Hyatt







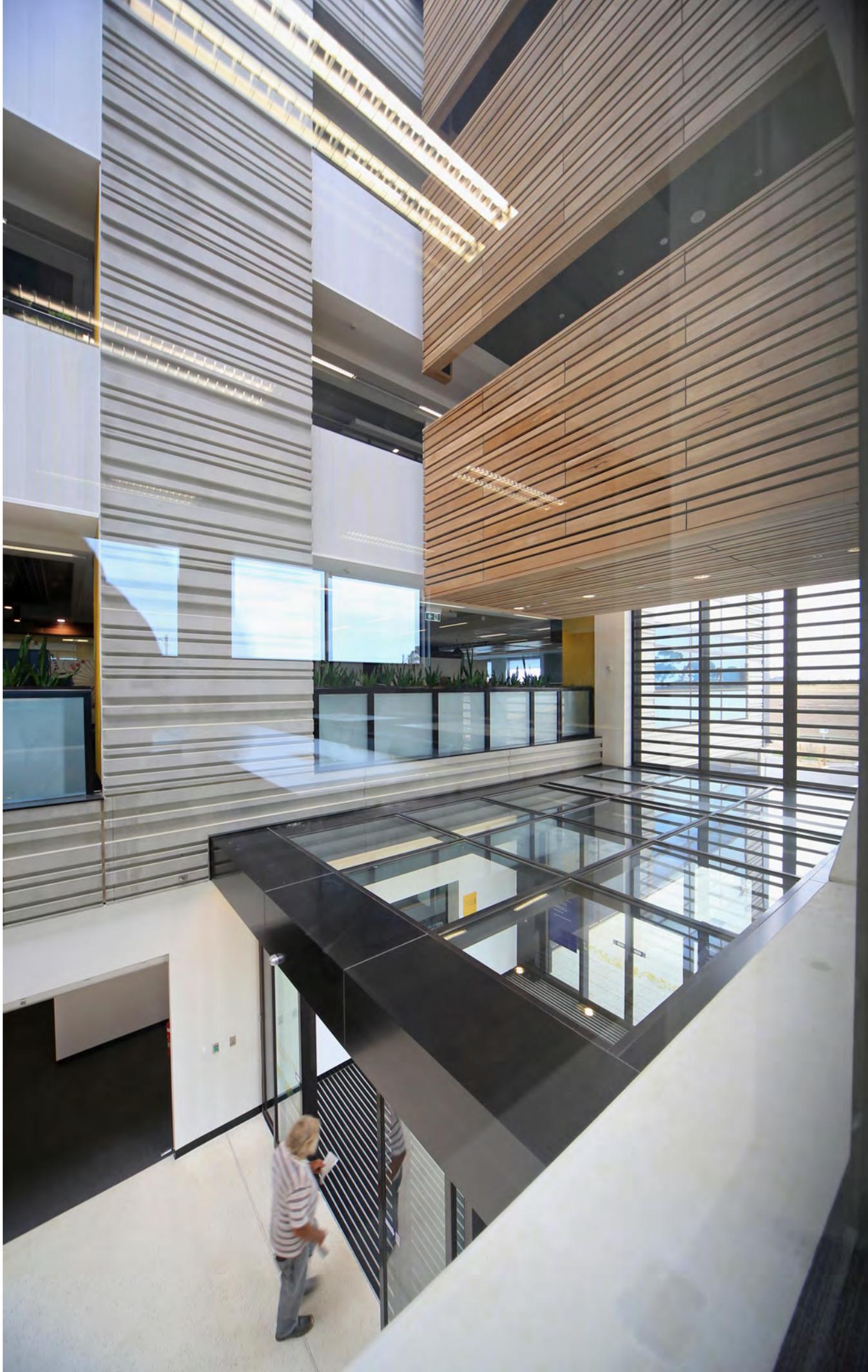


A new home on Melbourne's outskirts, suddenly brings Cardinia Shire Council into the city's design epicentre. We could be excused for wondering how such serious design takes root in pastures, until recently, almost exclusively agricultural.

Council's new home, some 50 kms from Melbourne's CBD, has a buzz well beyond its proximity to the Pakenham rail-line with a station virtually at its front door. The design of this sleek, streamlined administration is bound to turn heads. Architects DesignInc, demonstrate a certainty of touch with their capture of light and air.

Historic rail terminals were referenced in design for the new administration and municipal chambers. Glass and steel informs the interior, reminiscent of grand central station. Viridian performance glass is key in the revelation that meets rail commuters, passers-by and ratepayers.

The south facing frontage echoes the sense of lightness with winged diagram, undercroft and palette of patterned glass.



DesignInc's design director Stephen Webb discusses the council's search for a strong identity and functional home to take it well into the future:

You must have been thrilled with the opportunity to create the modernist ideal of the stand-alone structure on a grassy knoll?

Stephen Webb: In theory yes, in practice, much less so. We'd really prefer refurbishment of an existing building. As a culture we should invest in regenerating our existing stock. It is always a challenge to work in a Greenfields setting because we actually relish an existing fabric. The true test will be when more buildings rise nearby. It's not designed as a stand-alone object with a singular feel because of that inevitable future change.

Do you test the status quo here?

SW: The most compelling aspect is its big step to create an innovative building on farmland. The area was planned as one of the most sustainable new neighbourhoods. This is a huge advance for Cardinia to position its headquarters here. We never really predicted that sense of an isolated building when finished. There are other things planned of course, but it remains an open site.

You are right on a major rail line.

SW: That relationship is probably the most interesting design aspect. The main facade has its origin in the movement of a really large picture window experienced at speed from a passing train. That will be the experience for many commuters and it influenced the design.



The main public entrance leads to central foyer with direct visual connection to administrative areas.

An open central core provides the light-filled armature around which council functions.





How do you prepare for the eventual development of unknown shape and size?

SW: We have an internal street atrium between the two wings to link with the future town centre. This will become the public interface between the rail and plaza. Most of the design and environmental ideas are about how to really integrate ideas within that space.

What about the cranked plan on the eastern end where you have a large window hanging off the end?

SW: It acknowledges the context of the main street. It's a signature element that says: 'Yes, we're part of this civic precinct and as headquarters, are quite special. That slightly cranked plan highlights key meeting spaces, with a nice shift in perspective. It has high exposure to the east and north.

Was there a best and worst project moment?

SW: The best is definitely client feedback. Of course most people aren't trained in built environment so there's nothing like starting to see a project take form. That is especially true of the atrium space. We pride ourselves on this as it was not in the brief, yet it has multiple functions the client now really values. And it's part of the environmental strategy from a light and airflow/ventilation point of view. From a social viewpoint it really has the potential to change the way council works.

What is your signature or calling card here?

SW: It's about offering more for less. As a design it's not really about the envelope, or appearance. As architects we need to demonstrate amazing design where every component has multiple benefits. Important questions have to be addressed and include: "How do we learn from energy and water usage, and waste disposal?" There's an important link in our experience between nature and aesthetics. That's really architecture's Holy Grail and where we should be looking to nature for inspiration and ideas.





THESE FOOTBRIDGES ARE WIDE ENOUGH FOR STAFF TO CONNECT AND MOVE AROUND, RATHER THAN SQUEEZE PAST EACH OTHER. AS CIRCULATION ZONES THEY SHOULD ENCOURAGE THAT EASY INTERACTION AND COUNT AS ANOTHER BREAKOUT SPACE OR HUB.

Stephen Webb, DesignInc

Opposite While essentially about controlled daylight, this footbridge is a juxtaposition of darker space with visor-like edges.

Below Staff kitchen and dining areas have an optimistic quality with external courtyard deck on one side and atrium on the other.





Is the aim here innovation or refinement?

SW: It's more one of refinement. A commercial project that integrates a mixed mode energy system, or a purge system really demonstrates to broader industry that business as usual is no longer good enough. This applies to local and state government and corporations. We shouldn't have to rely on cultural buildings to break down that barrier between inside and outside, or to fear innovation in embracing intelligent building systems and work practices

It's also about accessible and friendly spaces rather than being confronted by grand or oppressive buildings.

SW: We were encouraged by council from the outset to have their name and meeting chambers right on the street at ground level with lots of transparency. Visitors literally arrive in the lobby. They experience and see the council above. There's no entering through a door then walking up the stairs, it's all there once they enter.

Footbridges have become flavour of the month haven't they?

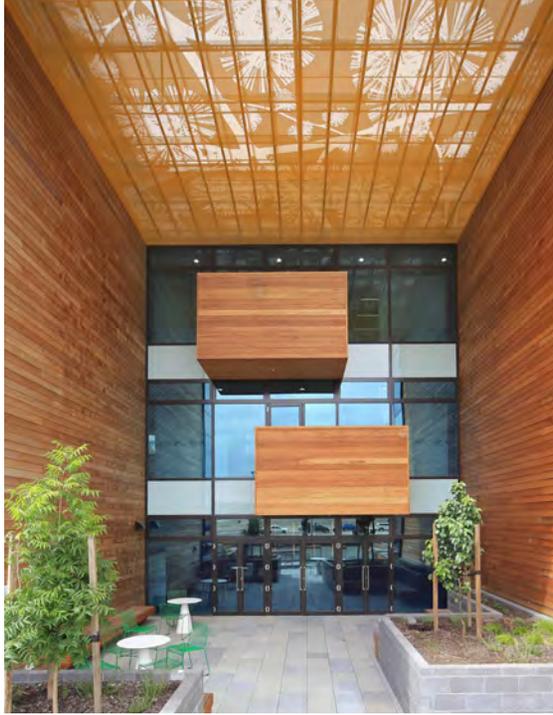
SW: Probably for good reason. They encourage staff to move about the workplace rather than remain holed up at their desk or travelling by lift. These footbridges are wide enough for staff to connect and move around, rather than squeeze past each other. As circulation zones they should encourage that easy interaction and count as another breakout space or hub.

What are some of the considerations regarding glass that influenced your design?

SW: The rail and passing train analogy is relevant because it wasn't just that idea of movement and speed that inspired us, we also took inspiration from the great steel and glass halls of traditional railway stations. They inform that analogy with this atrium space. We really picked up that it wasn't just about large areas of glass. It's actually about that relationship of glass with the filigree of shadows and steel. We took inspiration in the feeling of blurred movement that passengers experience from a passing train. That didn't require a solid wall of glass. We probably have a 60/40 split of glass that with movement, resembles a bar-code. Our material is a combination of spandrel and vision glass.



The first floor, staff amenities area provides a deep recess for all weather conditions and is overseen by balconies on the second and third levels as well as glazed wing 'walls'.



Did Viridian provide technical assistance?

SW: We received considerable pre-site consultation and advice from them to achieve the right level of light transmission, clarity and privacy in our choice of glass. So, yes, there were glass samples and on-site checking for all of the issues and questions we had about cladding and internal fit-out.

What about the other use of glass?

SW: Glass is very much about each elevation and orientation. To the east, the windows are quite sculptural and punched. On the north, it's around 70 percent glass with a lot of horizontal and vertical shading to help minimize sun-glare in workspaces.

Do you succeed in making your work enduring and fashion resistant?

SW: Our design needs to pass the test of multiple functions. A design element or feature has to have more than one purpose. It must have two and hopefully more. This applies to material selection. We also try to imagine how a project would have appeared 10 years ago, not just in 10 years time. We look back and look forward.

The main car park and north facing elevation features Viridian performance glazing along with set steel louvres to mediate sunlight yet optimise light transmission.

Do you see the headquarters more than an administrative anchor that might inspire a higher quality of development?

SW: That is definitely something we would hope for. We have been helping Cardinia on guidelines for this precinct. A major concern is how you can preserve some of the memory and culture of that original landscape pattern. A lot of the master plan draws on the strong linear lines of wind-breaks, fences, and roads that contrast the more natural water bodies. That was used as inspiration for this linear, stretched out element in the landscape.

Is transparency a key to understanding its function.

SW: The new range of performance glass along the north allows a tremendous transparency that doesn't need to be reflective, or heavily tinted. Transparency is really valued to reveal and highlight those areas such as the plaza where people meet. You could say it reveals something about the culture of the council to be clear and open in its processes and for visitors and passers-by to recognize that quality.





Can you elaborate on the internal planning and circulation zones? Isn't the intention to encourage interaction and connection between staff and visitors, yet avoid that Blade Runner scenario of high-tech indifference to each other?

SW: From a public point of view there is no need to ascend beyond the first floor into the main staff hub. But yes, this is definitely a place about visibility and eliminating walls where possible and to encourage interaction between staff and public. The mid level and main circulation staircase is where staff most commonly gather for coffee. It's a chance to have lunch and use the break-out spaces. The floor-plan is almost an onion-skin in terms of how the floor plate works. The most active, collaborative spaces are located in the middle. Progressively and further out are other meeting areas. It was a really big step for the team and client to accept that this is open to all staff and focus work areas.

Is there a particular part of the project where you feel it really all comes together?

SW: The heart of the building is where the glass staircase acts as a conduit for staff movement and circulation. That's a special space with beautiful light and you can see how staff are drawn to that area.

The building's summit isn't necessarily its top, but a particular point in the building where you really feel you're in that epicentre.

SW: We were quite conscious with this stair that there's some tight restrictions around fire-proofing. A third stair was outside of budget, but this had to be a fire and smoke isolated stair. It also had to feel intuitive and interactive. Everyone uses those stairs rather than the lift. It's very transparent and open. We have tried to keep the stair very glazed and balustrades highly transparent. It's probably my favourite place in the project in terms of really giving that clear gravity point to people.

Is too much glass ever a problem?

SW: The solid surface allows glass to perform its function. Glass on glass often means there's nothing to see, so you need a solid somewhere to create light and shadow where one assists the other. We have these amazing shadows from the glass that drapes onto the stairs from the roof and walls.

'Ticking of the boxes' is often code for base denominator, but what are some of its main green features?

SW: You can't avoid Green Star, but we now look beyond that and I think we're much better for it. Especially for a local government point of view it's important that they have a level of quantitative assessment to show leadership for the municipality. It was important for them to be able to formally write it.

Does architecture become easier with practice?

SW: What becomes easier are those problems you have previously encountered and can draw on to better lead discussion. It probably is as much about giving confidence to the client and then you can move on more quickly.

Has that humanizing process been assisted with glass?

SW: I hope so. Much of this boils down to how staff embrace their workplace. The atrium is the heart of dynamic, fluid work-spaces. I'm looking forward to seeing how staff adopt the anchor points around lockers, the forum and shared spaces. We wanted to humanize spaces and volumes throughout, while managing glare and optimizing all of the benefits that flow from such an extraordinary use of daylight.



Credits

Project

Cardinia Shire Offices

Architect

DesignInc. Melbourne

Project Team Stephen Webb,
Sonna Montgomerie, Emer
Denneny, Afrodite Moulatsiotis

Builders Watpac

Structural Engineer Bonacci

Principal Glass

Supplier and Installer

Viridian – Iain Kennedy,
Dallas Leeming, Ian Ely and
Viridian Clayton glazing team.

Principal Glazing

Viridian EVantage™ SuperBlue

ThermoTech™ E Double Glazed Units
incorporating SolTech™ Grey

Central Atrium Glazing –
ComfortPlus™ Clear

Spandrel Glazing – Seraphic
Standard™ custom colours



CORE PRODUCTS



ENERGY



NOISE



CLEAR VISION



DECORATIVE



BUSHFIRE



STRUCTURAL



STORM



SECURITY



SAFE HOUSE

The Peninsula House, Mornington Peninsula, Victoria

Architect: Ryan Moody

Principal glazing resource: Viridian PyroGuard 40™

Images & Text: Peter & Jenny Hyatt

Sheltered courtyard. Paarhammer doors emphasize the experience of the outdoor room.





Victoria's Mornington Peninsula was recently lauded as among the world's 20 top travel destinations for 2015. Its selection by the prestigious National Geographic, surprised many who would have guessed Uluru, Great Barrier Reef, the Kimberley or countless other local tourist hot-spots.

Those in the know might be disappointed that the Peninsula's attractions have just been trumpeted around the globe. Might it spark a stampede of international and domestic visitors? We will have to wait and see.

It is hardly coincidental that there is a growing recognition of the region's landscape and its architecture for that matter. Vineyards set in rolling, verdant hills to beach houses quietly stepping among ancient ti-tree are all part of its belated, but newfound recognition.

There is no shortage of development on the Peninsula that squanders its opportunity, but some of it has a touch and feel intuitive to climate and place. Rather than the imported foreign object, it reflects local knowledge and awareness.

Despite being tamed by subdivision, much of the area's southern arm is shrouded in highly combustible ti-tree. It's a blessing that can quickly become the bushfire curse. With higher population densities and climate change, ignorance of the implications, risks dire consequences.

Moody Builders recently addressed the problem with Viridian's PyroGuard 40™ – a specially processed double glazed unit that withstands extreme bushfire conditions. Moody's went to the specialist window and door manufacturer Paarhammer. Its bushfire rated, performance laminated timber products are a rare combination of handsome technology.

Project architect Ryan Moody of Moody Builders spoke with *Vision's* Peter Hyatt about how this Peninsula House was designed to adapt to a changing world:

What sets this project apart from others you have designed and built on the Mornington Peninsula?

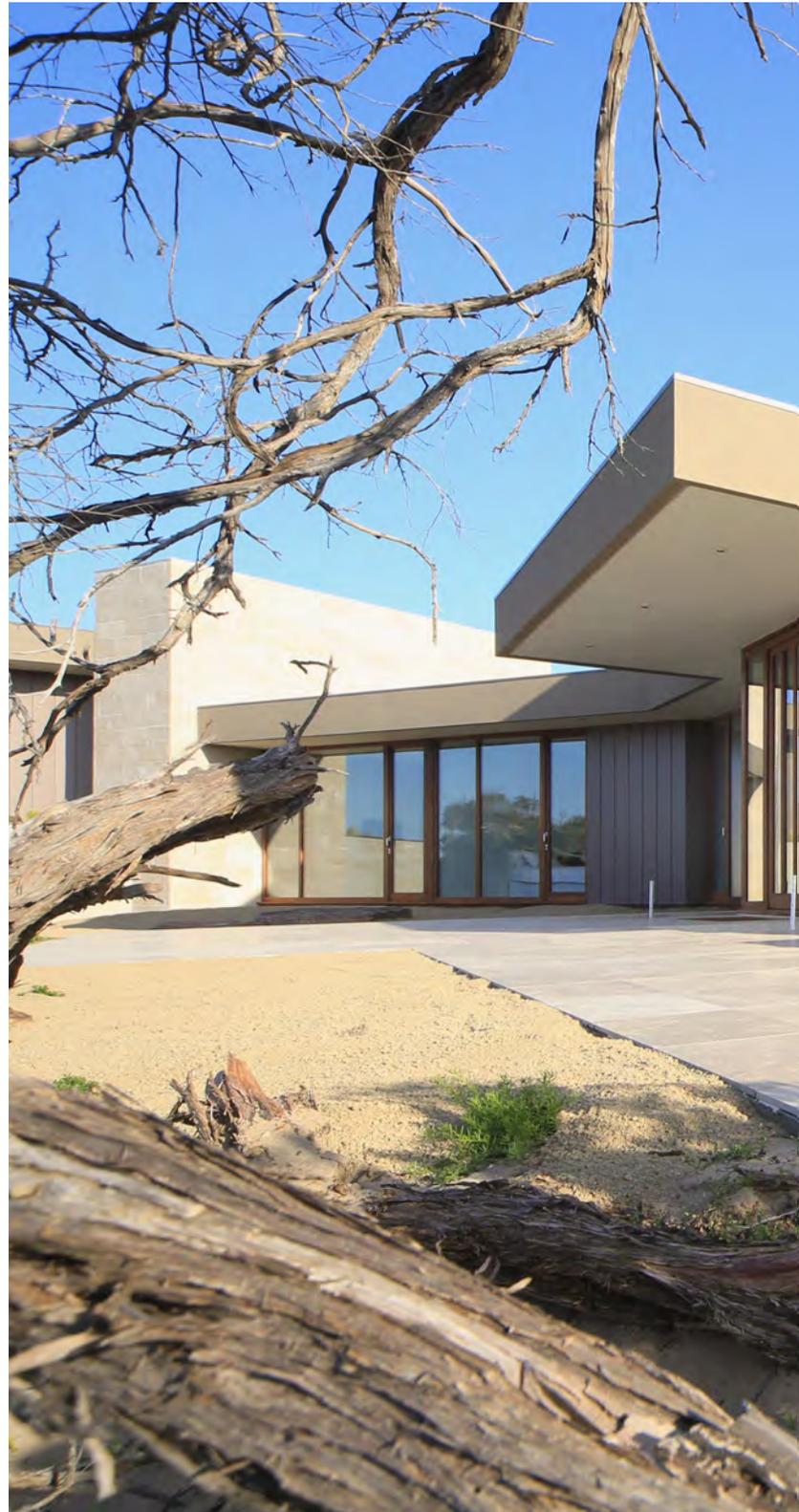
Ryan Moody: That's a good question. Thirty-five years ago my father built these very same clients their first house here, and it is fantastic that they returned for this, their second. That first house was originally built just around the corner. The location of this house on the sand dune of the ocean beach, informed much of this particular project's design.

That's quite a continuity and back-story. From a design point of view, what is the progression that has occurred?

RM: Our clients wanted a quite classic and timeless result. That's what really informed the material selection of natural stone, stone floors, the quality Paarhammer timber windows and, of course, Viridian glazing.

Was it always your intention to make the doors and windows such a feature?

RM: Yes, from the outset. The whole spirit of this house is to feel connected rather than shut-off or enclosed. There are an extraordinary amount of windows, doors and glazing generally. We didn't fear or avoid the elements here. It was much more about embracing them. The design not only accepts an exceptional amount of daylight and tremendous views, but also shields the hottest sun. The master bedroom really is indicative of the disappearing walls. It allows rooms to just flow into the courtyard or surrounding ti-tree.





Your glazing is a powerful element in the overall design.

RM: You will have noted that the glass is very clear and transparent. We wanted the glazing to virtually disappear so that the building is a collection of stone elements of chimney, storerooms, roof planes and flooring, seen as pure vertical and horizontal forms. The windows keep the weather out and of course, provide incredible flexibility that blurs inside and out.

It's clearly a multi-faceted house. That handful of quality materials used well gives it a real strength of unity. Stone, timber and glass give it a very clear aesthetic. The best of this setting is obvious, but what is the hardest?

RM: The bushfire constraints were challenging. Council and the CFA suggested a different location on the site, further away from where we proposed. We engaged a fire consultant and fire engineers who modeled a fire's likely behaviour through that landscape of national park and sand dunes. They confirmed that we could build safely on the site where we had selected.

You obviously needed a secure, highly fire resistant envelope.

RM: A huge part of meeting code was the glass, window and door-frames. You see a lot of houses in bushfire areas that resemble bunkers with small windows. We sourced a leading window manufacturer in Paarhammer who used Viridian Bushfire Attack Level (BAL) rated glass. The bushfire rating required is quite extreme but it has to be. We wanted large windows and Paarhammer was the only window manufacturer we could find who could produce the size windows and doors that also met the stringent fire-rating criteria required.





The aesthetic of maximum glass is evident in the kitchen courtyard and main bathroom where views and privacy are not compromised by neighbouring properties.



It's one of the great success stories of this project as safety codes can easily lead to such risk-averse design, you end up with a very introverted, unpleasant result. This house really reverses that scenario. RM: It does.

The BAL rated Paarhammer frames in combination with Viridian PyroGuard 40™ glass really allows a license to design something impossible with the technology of 20, or even 10 years ago.

RM: That's true. The glass and framing are remarkable. Should a bushfire run through there, PyroGuard 40™ transmits only three percent of the fire's radiant heat. Drapes, fittings or carpet – anything internally which would normally catch fire in a standard construction – remains safe. Just three percent heat transfer is fantastic. We're lucky as are the clients that this glass does quite so much. It provides fire protection, yet it has inherent energy efficiency with minimal heat transfer. Summer solar gain is minimal and with minimal winter heat loss. Overall there's an appreciable reduction of external noise, so it's also a very quiet house.

How extensive is the research required for bushfire modelling and window resistance in a worst-case scenario. Is it tested and signed-off for a one in a 100-year bushfire?

RM: We were drawn to them because of the firm's research and work in developing bushfire resistant products. We look forward to working with them again. The Paarhammer bushfire range of windows and doors have been independently tested and can be used without shutters. Their window system goes to a lab where they are subjected to bushfire conditions. Those we used are rated at BAL-40, but Paarhammer also developed BAL-FZ (Bushfire Attack Level Flame Zone) which is the highest level of bushfire protection.

Once you understood the bushfire code restrictions, you must have felt your hands were tied.

RM: Yes, but that is what being an architect and builder is all about – jumping one hurdle, then another. It's something we're quite accustomed to and one extra task that informs the eventual design. Something else in terms of bushfire regulations is that any operable window must be screened which we didn't see as desirable. Rather than operable, stackable windows, most of the building receives its airflow through stacker doors and tilt and turn doors. The 920mm wide, 2700mm high doors open like a standard door, but can also tilt at the top, to be used as a door or window, which help avoid the need to screen those window doors.

THE GLASS AND FRAMING ARE REMARKABLE. SHOULD A BUSHFIRE RUN THROUGH THERE, PYROGUARD 40™ TRANSMITS ONLY THREE PERCENT OF THE FIRE'S RADIANT HEAT.

Ryan Moody, Architect





YOU WILL HAVE NOTED THAT THE GLASS IS VERY CLEAR AND TRANSPARENT. WE WANTED THE GLAZING TO VIRTUALLY DISAPPEAR SO THAT THE BUILDING IS A COLLECTION OF STONE ELEMENTS OF CHIMNEY, STOREROOMS, ROOF PLANES AND FLOORING SEEN AS PURE VERTICAL AND HORIZONTAL FORMS.

Ryan Moody, Architect

West facing bedroom can be opened up or closed down to connect with the prevailing conditions. External metal louvres can be activated and angled to further mediate sunlight.



Some people fear daylight. This design proves that by using the right projections, screens and filters, the articulated glass box really does work remarkably well.

RM: That's true. Orientation was important here too, but we really wanted a design that shaded glass walls from the most intense heat loads. The low heat gain of the glass also helped this big glazing program.

You have an interesting building footprint that provides sheltered courtyards rather than the blunt, pre-ordered box. It's a design very shaped to site.

RM: We worked with the site contours that helped us design the garage at a sort of sublevel, and the bedroom above looks across to the north. Its skewed boomerang shape offers a south courtyard, protected from the weather and also a small, intimate outside space. The northern terrace, in front, is a bigger space. Depending on the number of people using the house and the weather, guests can decide the most comfortable outdoor area.

From a building cost viewpoint, how does such an activated, operable series of glass facades compare to a more traditional build?

RM: In this case, it is initially more expensive. The windows had to comply with the bushfire rating and the owners wish for a very light-filled house with a fantastic outlook. Aluminium window sections would be more cost-effective, but the clients were prepared to make the investment in the Paarhammer frames and they're really pleased that they have.

Was there a light bulb, or a master-stroke moment to arrive at this solution?

RM: The clients really wanted something embedded in the site yet in a way, floating above the site. We were just doing some sketches in the office and came up with the concept of a floating roof plane above the site with vertical elements to tie in.



Were they comfortable with the idea of operating so many doors and windows? Did that faze them at all, having to manually slide open doors, walls and windows in this age of push-button ease?

RM: They have all of those options with hydronic floor heating and ducted heating and cooling, if they want to use that. They made a point of going to the Paarhammer factory, around two hours away, in Ballan. I think that reassured them of the unit quality and they experienced how easy they are to operate.

How important is the tracking system for doors of that size?

RM: These doors are fitted with heavy duty lift-slide roller carriages so they can be moved quite easily, even for a lightly framed person. The large doors weigh at least a couple of hundred kilos each, yet slide quite effortlessly.

Your glazing approach is highly tailored and tuned on all elevations.

RM: The windows really respond to each elevation opportunity. The panoramic glazing looks to the north vista across the tree-tops. They are almost bespoke views and windows that mean even working at the kitchen sink can be quite pleasant. Another main view line the clients wanted to pick up on was the sand dune to the west, through the master bedroom. Part of the design on that direction was building a louvered roof to provide external cover wraps, but we wanted to make sure that enough light could still reach living spaces.

Do you have a favourite part of the house that most obviously comes together?

RM: I really like the strong vertical elements within the horizontal planes of the roof and flooring. The stone elements appear to have existed before the house was built and a feature of some previous dwelling. They are almost like what you see of brick fireplaces standing alone in the countryside where a pioneer's house once stood.

Have you a favourite room or space?

RM: Sitting in the courtyard on those big rocks in the south courtyard. That area connects to the kitchen and it is really where you are outside, yet inside at the same time.

How important is client empathy in the design process?

RM: It's why I'm an architect and I get up each morning. I happen to really like cooking and so sharing those interests is what makes you a better architect.

The kitchen area has daylight coming from three directions. Rather than being cut-off, it really becomes this focal point for family gatherings.

RM: My clients were quite aware that people enjoy congregating in the kitchen. This has a really generous island bench and this room is really the heart of the project. It has wonderful light at all times of the day, privacy and outlook into the bushland and dunes and it really epitomizes the considered response to site and the creation of a haven for our clients.

Credits

Project

The Peninsula House

Architect

Ryan Moody

Builders Moody Builders

Structural Engineer

Mark Stellar and Associates

Windows and Doors

Paarhammer, Ballan, VIC

Principal Glass Provider

Viridian

Principal Glazing

Viridian PyroGuard 40™

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