

Works

Dining hall and Katherine Johnson Building, Ralph Allen School

Feilden Fowles has completed a dining hall and eight-classroom teaching block as part of an ongoing series of commissions for Fergus Feilden's alma mater, Ralph Allen School, on the outskirts of Bath. Wendy Perring reflects on the architectural moves – and the trust between architect and client – that have given the 1950s campus an enhanced sense of place

Photographs by Jim Stephenson



Situated on the outskirts of Bath, Ralph Allen school is a co-educational comprehensive with Academy status forming part of the Palladian Academy Trust. The School was originally built to accommodate 300 students, but is now oversubscribed, with more than 1300 students. An early photograph of the school reveals a 1950s legacy of post-war school buildings; loosely spread-out linear forms with a vertical structural rhythm. Ralph Allen, like many educational campuses across the country responding to changing demands with limited funds, expanded over the years with little thought given to longer term strategy or spatial coherence.

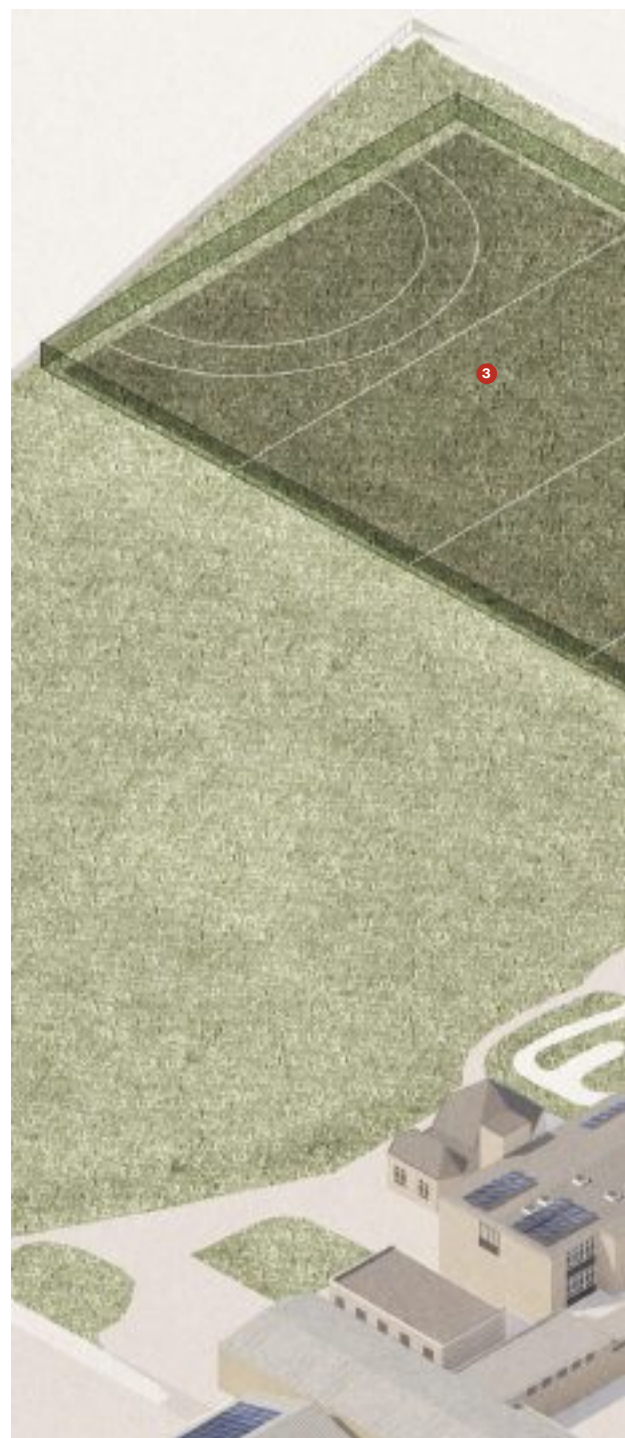
Project director Fergus Feilden reflects that “As the school grew in the 70s, a number of cheap, steel-frame buildings were added, loosely forming a central courtyard. Subsequent growth was then accommodated through ad-hoc smaller buildings and demountable classrooms, often within courtyards. These eroded any unifying identity to the school and a logical organisational diagram.”

This loose arrangement of buildings – a kind of ‘democratisation’ of form – is a powerful legacy of the modern movement. At Ralph Allen School, this ideology is reinforced in the architecture where the public frontage and arrival spaces are unassuming. For example, the reception is an intimate space with low ceilings and a long, narrow double-loaded corridor that extends westwards towards the newest building elements. Projects such as this, where new ‘pieces’ must be inserted into a pre-defined masterplan, typology and architectural context, raise questions about the merits of accepting or challenging the existing character of the place and its buildings. The architect engages at a point in time to consider the past, yet to project into an as yet unknown future.

Feilden Fowles has been working with Ralph Allen since 2011, and Fergus Feilden



Above: Circulation to the first floor of the Katherine Johnson Building is via an external staircase, in common with The Rose Building.



Opposite: A series of repeating bays sets up a strong vertical rhythm across the facade of the Katherine Johnson Building.



The campus	
1	Main block (renovation) 2013
2	Lee Centre 2013
3	All weather pitch 2013
4	The Rose Building 2014
5	Dining hall 2019
6	Katherine Johnson Building 2020
7	Theatre and drama studios (ongoing)



attended sixth form at the school. The school is Feilden Fowles' longest-standing client, and a significant one for providing the practice with its first major, non-domestic project: The Lee Centre, which was awarded an RIBA award in 2013. As any young practice will testify, this moment is a formative and significant break. When Feilden Fowles was tasked with undertaking a masterplan for future expansion it was faced with a conundrum: How does one achieve a sense of scholastic presence and a coherent sense of place within an underfunded national education procurement system that often premiates quantity over quality? By identifying sites

for development, and decluttering the site of underused temporary buildings, Feilden Fowles began to establish a greater clarity to the campus. The sheer multitude of older buildings was always going to make this a significant task and put pressure on any new interventions. The ongoing relationship with the school also brought the challenge of how to dispassionately step back and achieve freshness in response to the opportunities.

The initial expansion plan focused on a series of sensitively considered interventions that continued the school's spatial character of individual buildings forming loose, landscaped courtyard

spaces. Feilden Fowles' aim, was to achieve a more keenly felt spirit of place, where buildings with individual character do not shout but help reinforce the overall narrative, creating a new high-quality environment for the pupils to socialise and learn in. Feilden reports that "As an alumnus and parent of two students at the school, it's been gratifying to deliver a vision for the school that will have a lasting impact."

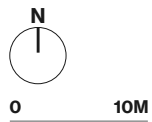
A key factor that emerged from the initial consultation workshops with staff and students was the desire for new buildings with a sense of identity. The children expressed a fondness for an

Above: Aerial view showing the Katherine Johnson Building, The Rose Building, and new dining hall.

Right: Opened in 1958, the school was originally built to accommodate 300 pupils and is characterised by strong linear forms.



Ground floor plan of the Rose Building, dining hall and Katherine Johnson Building.



Above: Layered front elevation of The Rose Building.

existing octagonal building on the site whose strong simple form and quirky expression are characterful and help orientation. As part of the masterplanning phase, two new landscaped courtyard spaces were created to the western side of the site, beyond the existing buildings. The new buildings embrace and define these spaces, although there is still need for a greater sense of containment between the Lee Centre and the Rose Building. This will be resolved with the next part of the jigsaw: a proposed theatre and drama studios, currently at the planning stage.

The courtyard spaces are considered as

destinations with their own identities. The school sits on a sloping site with a level difference of over seven metres. This topography creates opportunities for the gently undulating surface that is punctuated by a series of mounded forms. Some are planted with silver birch, grasses and ornamental flowers, others are simple grassy mounds that are playful and obviously for engaging with. There are no 'keep off the grass' signs here. Whilst they may represent an ongoing challenge to maintain, they are joyful, and it is good to witness a natural landscape being interacted with through play.





Personal West

The new dining hall, completed in 2019, sits on the western boundary of the site and adopts a low, linear, pavilion-like form, almost completely glazed on the main western elevation and topped with a light-box set back into the plan. The delicacy of this upper element intrigues and causes the observer to pause and notice the reflection of the sky and wider context. An elegant, cantilevered timber canopy extends into the courtyard forming a cloistered space which offers students shelter as they queue for the servery. Internally the canopy frames the ribbon of east-facing low glazing, which appears to reach outwards, connecting with the landscape.

Internally, the hall has an air of simple grandeur, with a lofty double-height space running its entire length. The expressiveness of the internal spruce glulam frame structure provides animation without feeling overdone. Designed with future flexibility in mind, the hall is built to accommodate occasional school assemblies and events. The western wall is unglazed, forming an exhibition plane that can accommodate projected imagery. A large picture frame window on the southern gable frames a stunning view of layered landscape beyond. It is one of those ‘wow’ moments when the synergy of a building set within a beautiful context offers the architect a natural gift, deploying an architectural picture frame to do it justice. Perhaps this is one of the contributing factors to Head Teacher Andy Greenhough’s claim that this is “the finest school dining hall I have ever been in.”

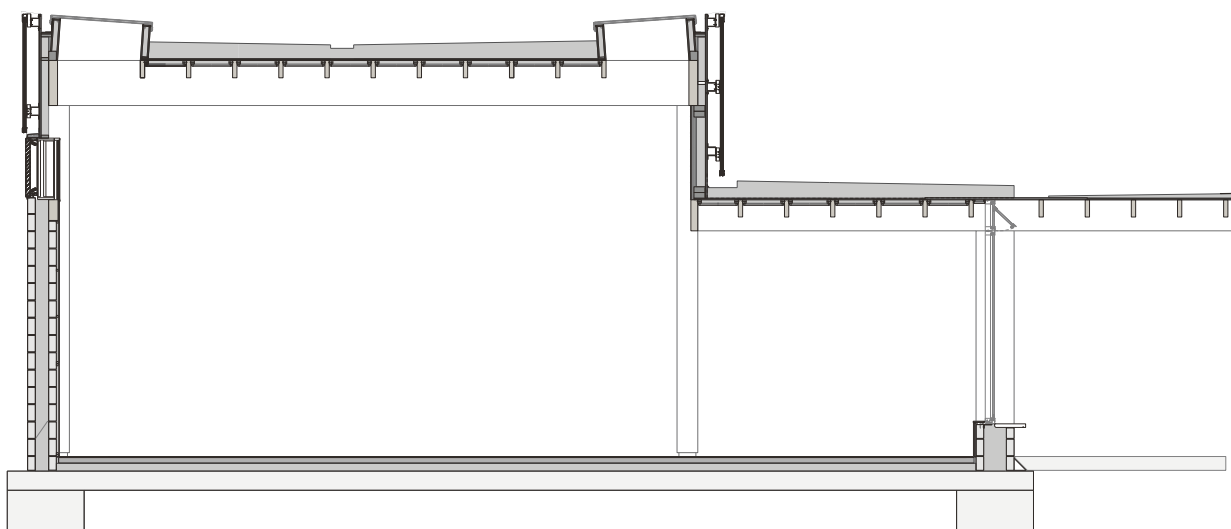
Good environmental design is inherent in good architecture. The dining hall has embraced low embodied carbon design through its use of hybrid CLT and exposed glulam structure. A passive ventilation system is facilitated using high-level roof-lights which also contribute to excellent daylight levels.



Above: The dining hall's exposed glulam structure provides animation without feeling overdone.



Above right: Generous rooflights facilitate natural ventilation and provide excellent daylighting levels.



Left: Detail section through double-height dining hall. A timber canopy extends out into the courtyard forming a protected space for students as they queue for the servery.

0 2M

**Katherine Johnson Building
first floor plan.**



The palette of warm natural materials creates a welcoming domestic ambience that adds to the feeling of calm serenity. This is perhaps one of the reasons why the sixth form seems to be claiming the building by stealth, using it to hang out, drink coffee and study. Natural wood-fibre acoustic panels used throughout ensure that even when filled with 400 chattering students, conversations can still be heard. Suspended linear lights, hung within the double-height volume at the lower ceiling level form a striking and considered feature, which accentuates the linearity of the hall. These are just one of numerous elements that contribute to the sense of

considered attention to detail, which is the fingerprint of good architects that care. Procured through a Design and Build contract, Fergus Feilden expresses a degree of frustration regarding some elements, But these small niggles do not detract from the feeling of lightness and joy that the building exudes.

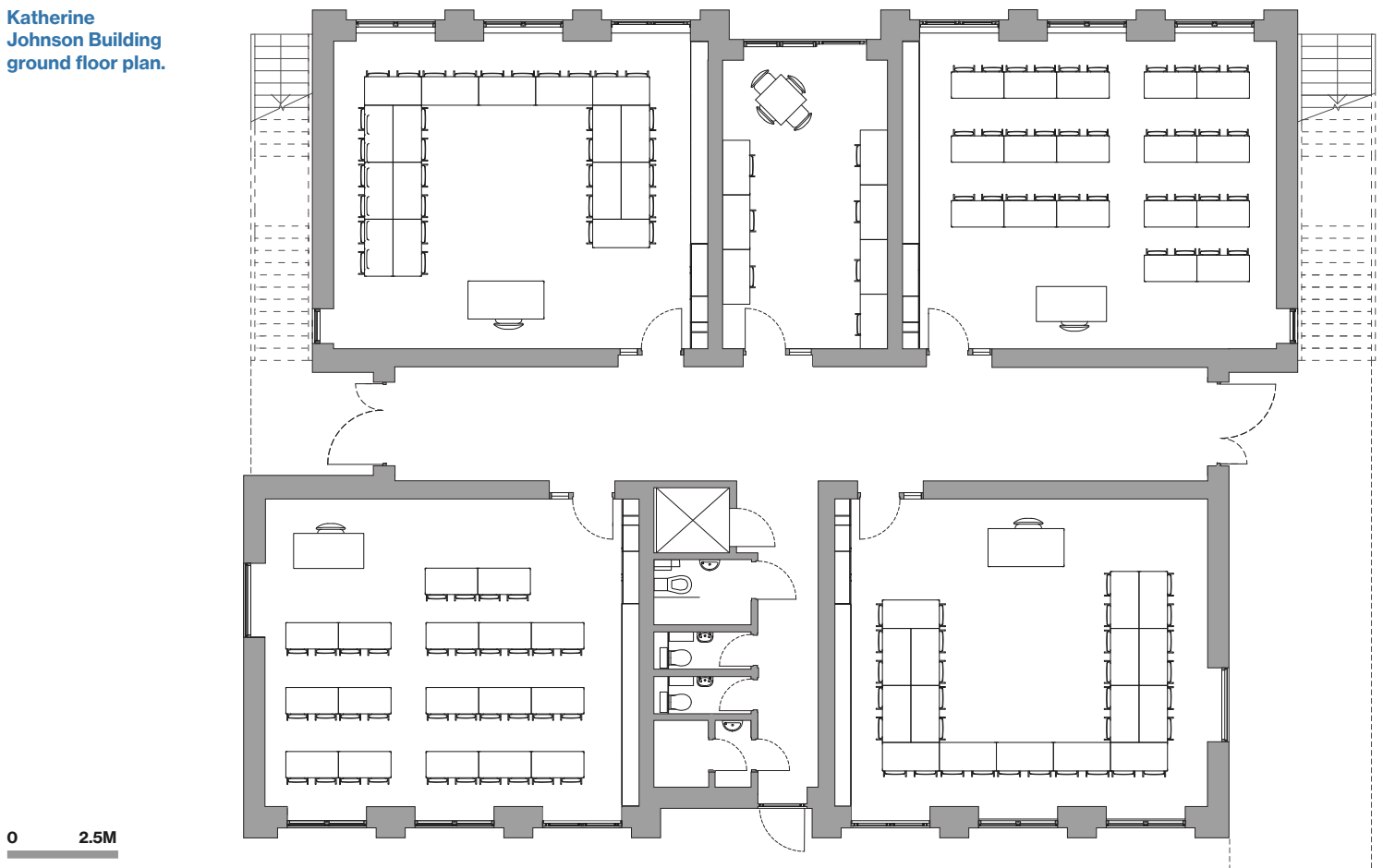
The elegant simplicity of the dining hall is a hard act to follow and the adjacent new maths teaching block, named the Katherine Johnson Building, is the latest building to be completed. The building's namesake was a mathematician and one of the first African American women to work at NASA. Like the main block of the

original school and Feilden Fowles' earlier Lee Centre, this two-storey building has a vertical external rhythm, but here this feels at odds with the dominance of the overhanging roof whose horizontality and depth seem to overpower the vertical bays. First impressions were that of an overtly rational structure weighed down by its roof. The reality, when viewed through the layers of the buildings that create the surrounding context is of a building of reserved subtlety. The roof gives a neighbourly nod to the adjacent Rose Building, completed by Feilden Fowles in 2014, creating cover to the external staircases. Like the Rose Building,

**Section through the
Katherine Johnson Building
showing top-lit central
corridor on the first floor.**



Katherine Johnson Building ground floor plan.



Above: The facade of the Katherine Johnson Building employs 'hit-and-miss' brickwork, as well as expressed masonry lintels and cills.

circulation to the first floor is external allowing the staircase to be read as an expressed element. The Rose Building's staircase, in a lighter shade of red, is hung from the upper storey with elegant thin steel uprights that add a dynamic tension. The Katherine Johnson building's balustrade is solid and sculptural.

In common with the dining hall, subtle asymmetry is a repeated theme. The regularity of the brickwork bays and piers supporting the deep overhanging roof are broken in the central, wider bay to accord with the plan – a welcome move. Exposed concrete lintels and perforated brickwork panels add texture, and this attention to detail works to relieve a

degree of austerity. The colouration of the deep burgundy window frames and steel staircases, together with colourful risers emblazoned with multiplication tables, adds a welcome element of playfulness without being childish or condescending.

Internally, the corridors of the new maths building are generous in width and proportion. Light pours in from the access points at either end. The slightly offset linear plan is punctuated with toilets and a smaller teaching space. The ceiling is lined with the same wood-fibre acoustic panels and long linear LED light strips as the dining hall. The school's decision to invest in an additional 60mm of insulation has



contributed to its excellent SBEM rating, and independent thermal mixing units to each classroom ensure ventilation and thermal control.

The design of the eight classrooms, distributed over two floors, has been conceived with the collaborative input of teachers. While all rooms are dual aspect, those on the south enjoy views of the rolling Claverton hills beyond. Students are focused away from the view, towards the teaching wall during lessons. It is only upon entering, and when lessons are complete, that reconnection with nature and school life occurs. A simple move, but one that works well in practice.

Above: Side elevation of the Katherine Johnson Building. The burgundy window frames and steel staircase contrast with the cream-coloured masonry.

Unusually, the Katherine Johnson Building was procured using a Traditional JCT procurement route. It is the small wins of this procurement process that elevate the resultant build quality and demonstrate that, if time allows, it is a route that enables the best build quality possible whilst evidently still providing value for money within a tight programme.

The challenge when designing any educational building is for the school and the architect to balance budgetary constraints, funding and the procurement process; embracing all those shortcomings to the best of their ability. A strong architectural concept, which is confident

enough to withstand value engineering without undermining the initial aspirations is essential, as are great relationships.

The ongoing and enduring personal relationship between Ralph Allen School and Feilden Fowles has enabled a level of trust to be established between the two that has resulted in the execution of an almost complete masterplan, which enhances the sense of place. Undoubtedly the school has benefited hugely, manifest within the architecture that has been created, especially the new dining hall, which is a gem of a building. This is a place of hope, made possible by a process underpinned by trust.

Project team

Commissioning client

Palladian Academy Trust

Architect

Feilden Fowles

Main contractor

H Mealing & Sons

Structural engineer

Momentum Consulting Engineers

Services engineer (pre-build)

E3 Consulting Engineers

Services engineer (build)

Integrated Design Partnership

QS, project manager

Peter Gunning & Partners

Planning consultant

Rocke Associates

Ecology

Johns Associates

Landscape architect

SEED

Arboriculture

Assured Trees

Transport

IMA Transport Planning

Selected subcontractors and suppliers

Glulam frame subcontractor (dining hall)

Allwood Timber Construction

Kitchen specialist (dining hall)

Space Group

Steel frame design & fabricator (Katherine Johnson Building)

Robbin Engineering