

Addroddiad Adolygu Dylunio Design Review Report

Review Status: **Confidential**

Meeting date:	18th August 2010
Issue Date:	26th August 2010
Scheme Location:	Cwm Ifor Primary School, Caerphilly
Scheme Description:	Education
Planning Status:	Pre-application

Part1: Presentation

Architype has been engaged to work in partnership with the Local Authority's in-house design team to develop proposals for a new primary school, taking a lead role up to RIBA Stage C, which is the current proposal. Both partners are required to sign off the developing design at key stages. This is a pilot project for the Welsh 21st century schools programme.

There is a level change of 13m overall across the site, the topography reflecting previous 'plateau' cutting of the site. It has good solar access and views to the south. A part culverted stream runs from north west to south east across the site, and is prone to overflowing due to blockages created from dumped rubbish. The client is keen to open this up as a feature.

Extensive consultations have taken place with the whole school community, using an educationalist to challenge a conventional pedagogical approach. Further consultations were held with the wider school community, which highlighted the importance of maintaining and improving connections with neighbourhoods to the east and west.

The internal plan of the building is simple and legible, with a variety of multi functional spaces and virtually no corridors. It relates directly to the changes in teaching practice that have evolved through consultation with the staff team.

The sustainability strategy is based on an 'eco minimalist' approach, which avoids unnecessary complexity and technology and concentrates on driving down energy demand and achieving a thermal energy-in-use target – likely to be around 30 kWh/sqm/year. The building will achieve BREEAM Excellent.

Summary of key points arising from discussion, to be read in conjunction with Part 2 of this report.

The Panel was very pleased to have the opportunity to review this pilot project for the Welsh 21st Century Schools programme. We commended the enthusiasm and commitment of the whole team, and the background work that had been done in terms of consultation and site visits to precedent schemes. We think this is a potential exemplar project, and urge that the present input of skills, rigour and analysis is carried through to the construction phase. In summary:

- We accepted the rationale for the building's form, layout and orientation.
- We had some concerns over the deep plan and symmetrical layout and façade treatment, but were reassured by the team's confidence based on previous experience and ongoing monitoring.
- The use of landscape as an educational resource is commendable and the building will facilitate this relationship.
- The main entrance area should be kept as open and generously spaced as possible.
- The intelligent sustainability strategy, which achieves a reasonable BREEAM rating but then seeks to concentrate resources on minimizing energy demand, is a valid approach which will hopefully be justified by the results of post-occupancy monitoring.

Part 2: Discussion and Panel Response in Full

After requesting further details, the Panel accepted the rationale for the location of the building on the western part of the site. In particular the client wished to foster connections with the community to the west, through greater proximity, while maintaining a strong visual connection with the community to the east

The Panel noted that the design did not respond to views to the south east and south west. The architect explained that the form and layout of the building had developed from a strong pedagogical vision of skills-based learning, which puts a premium on interaction with the immediate landscape around the school, and was less concerned with views of distant landscapes. The form and layout had also been designed with a north/south orientation so that the principles of passive solar design could work correctly.

The Panel questioned how well the deep plan of the building would work with the desire to achieve good daylight levels and natural ventilation. We were informed that daylight studies have been done and informed the design. Cross ventilation and night-time cooling will operate for all spaces. Clerestory windows on all four sides of the building will have mechanised opening. Based on these measures and their experience of designing similar buildings, the design team was very confident that internal spaces would be well daylit and thermally comfortable. Notwithstanding this, the Panel felt that the 'heart space' would benefit from a clear view to outside on both faces, as indicated on the concept diagram, but is constrained by the tightness of space around the main entrance.

Acoustic protection has been addressed by using screens and shaping the spaces to reduce echoes. The clients had been impressed at how well this was working on a visit to

a previous school designed by Architype – St Lukes in Wolverhampton. They had discovered that noise levels were actually lower in bigger spaces than in contained rooms, and that children developed a respect for fellow users.

We also had concerns about the symmetry of the plan and the similar treatment of north and south facades. It was pointed out that the canopies on the south side had a dual function of shelter and shading. Similar canopies on the north were for shelter, but did have rooflights to allow some daylight in. In addition all north facing rooms were daylit by clerestory windows.

The main entrance to the school will have an important social function and we wondered if sufficient space had been allowed, both inside the building and underneath the covered area outside. We were reassured to learn that parents will be encouraged to enter the central hub when dropping children off, and to make use of the facilities there. There is the potential for a secondary entrance from the west if it becomes desirable in the future. The Panel noted that the outdoor dining area to the west was close to the service access, which could make the space unattractive for diners. In addition, no turning head for delivery vehicles is shown, which may necessitate reversing. However, we understood that deliveries would take place outside of meal times.

The Panel appreciated the way in which parking had been kept away from the immediate vicinity of the building, and the fact that the building users did not object to this, whilst noting that no disabled carparking spaces were shown adjacent to the building. Provision should be made to allow those less able to access the main entrance without difficulty, and this may require a review in terms of distances to the front door from the car park or disabled parking spaces. We were intrigued by the way in which the main access path crosses the opened culvert, and the relaxed approach to risk avoidance. We trust that any necessary Health and Safety measures will not include the fencing of the stream.

The Panel questioned whether there was sufficient thermal mass in the lightweight timber frame, to make best use of passive solar gain. We were informed that there was some thermal mass in the walls and floors which was considered sufficient.

The lower roofs will be turf with wildflower meadow planting; the upper roof will be single ply membrane probably with a shingle finish. We thought the latter was an inelegant solution, especially if there was the possibility that it could be viewed from the surrounding landscape.

We noted the apparent incompatibility of combining underfloor heating with high ventilation rates and openable windows, and the architect accepted that it may be necessary to supplement the underfloor heating with radiators. The heating fuel would be mains gas, in line with the teams's concentration on reducing energy consumption to a minimum and their doubts about the carbon neutrality of biomass. Solar water heating will be included and solar PV is being investigated as a possible source of revenue for the school. Renewably generated electricity fuelling a ground source heat pump may prove a better alternative to mains gas. Post-occupancy monitoring will be carried out to test how well the building is working in practice.

The Design Commission for Wales Design Review Panel and staff welcome further consultation and will be happy to provide further feedback on this report and/or where appropriate, to receive further presentations. Thank you for consulting the Commission and please keep in touch with us about the progress of your project.

A Welsh language copy of this report is available upon request.

Appendix 1: Attendees

Asiant/Client/Datblygwr: Agent/Client/Developer	Caerphilly CBC [Bleddyn Hopkins, Paul Samuel]
Pensaer/Architect:	Architype [Jonathan Hines, Elrond Burrell, Kathryn Nickson] Caerphilly Property Services [Julian Harding]
Consultants:	WLGA Welsh 21st Century Schools [Barry Austin]
Awdurdod Cynllunio/ Planning Authority	Caerphilly CBC
Y Panel Adlygu Dylunio: Design review panel: Wendy Richards [Chair] Cindy Harris [Officer] Kieren Morgan	Michael Griffiths Ashley Bateson Lynne Sullivan Mark Hallett
Lead Panellist:	Kieren Morgan
Sylwedyddion/Observers:	Liz Walder [RSAW] Richard Keogh [DCFWD]

Declaration of Interest: Ashley Bateson declared that his employer, Hoare Lea, is working with Architype on another school. He personally is not involved.