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# Double chemistry

A year after the opening of DSDHA's special needs school in Guildford, it is joined on the site by the practice's fantastically impressive Christ's College secondary school, writes **Ellis Woodman**

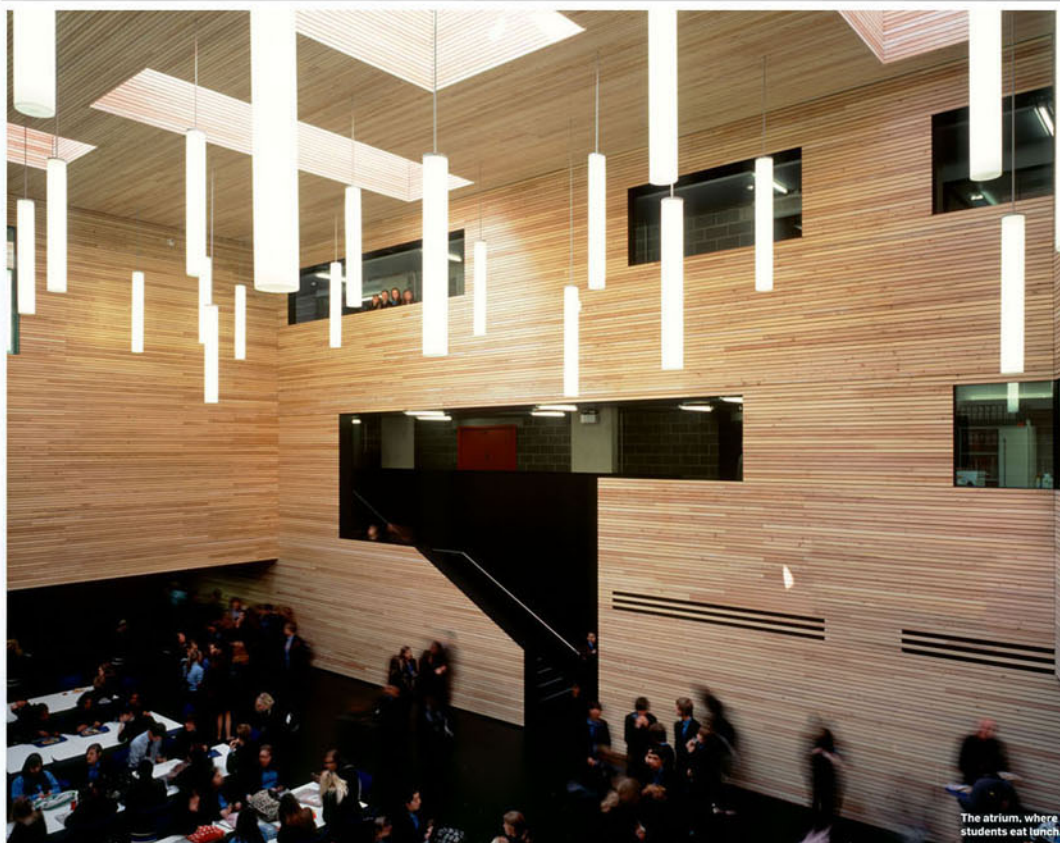
Pictures by Hélène Binet



Christ's College addresses DSDHA's earlier Pond Meadow school across a new road that runs through the site.



## WORKS: DSDHA



The atrium, where students eat lunch.

This time last year I visited Guildford to write about Pond Meadow (Works February 13, 2009), a really terrific school for children with special needs designed by DSDHA for a site on the town's residential edge. While a stand-alone facility, it was conceived as one part of an ensemble, the other major component of which was nearing completion at the time of my visit.

This is the new home of Christ's College, a Church of England secondary school that had formerly occupied the entirety of the site on its own. The school's previous accommodation was a dispersed post-war campus, generously provided with green space but which latterly had been ringed by a security fence in response to a string of arson attacks. This intervention had an inevitably damaging effect on the school's self-image and also introduced a large no-go zone at the heart of the community that it sought to serve.

In drawing up the masterplan for the site's redevelopment, one of DSDHA's central ambitions was to return it to a more perforce relationship with the surrounding housing — a task it approached by proposing a much more compact building envelope than had been

presented by the earlier campus. The practice even investigated the possibility of uniting the two schools in a single structure, but the fact that they drew their funding from different sources put pay to that idea.

What it ended up with was therefore two buildings stood side by side. In response to the pronounced disabilities of its students, Pond Meadow was designed as a single-storey structure, punctuated by internal courtyards and animated by a restless roofline. Its neighbour is finished in the same hard, beetroot-hued German brick but is a three-storey building of tauter profile and grander bearing — a country house, perhaps, to Pond Meadow's stable block.

The decision to keep the plans of the schools as compact as possible makes sense both as a means of minimising build costs and of ensuring the most environmentally efficient envelope. It also ensures that in spite of the site now accommodating two institutions rather than one, plenty of green space remains. A road now cuts through the site — with the schools set to either side — allowing residents who live to the north a far stronger connection to their immediate neighbourhood. In

## SITE PLAN



particular, it has given them a more direct link to the primary school that lies to the south of DSDHA's site. The days when younger children would habitually break through Christ's College's fence to avoid adding an extra five minutes to their daily commute are thankfully now gone.

If there is a disappointment, it is that this concession to community access is not pursued further.

The two buildings maintain a powerful visual dialogue and once the trees that have been planted around them have matured, they will communicate a still stronger sense of occupying a common landscape. Yet, for all the intelligence of their siting, the fact remains that the buildings are set apart from each other and from the wider world by many hundreds of metres of fencing.

A revealing point of comparison is offered by Peter Märkl's Im Birch school in the Zurich suburb of Oerlikon. It too is conceived as an ensemble of free-standing buildings but the interweaving play areas are made publicly accessible through the integration of automated security shutters over every window, thus obviating the need for a perimeter fence. Is it really unthinkable that such a strategy might be adopted in this country or am I naive to imagine that the social pressures faced by a school in a well-to-do Swiss suburb might be remotely comparable to those with which a school in urban Britain has to contend? It is surely a question worth asking as the two examples present a fundamentally different relationship between school and community and it is a difference felt in the projects' ability to speak to the wider city, to attain a sense of the civic.

Indeed the dominance of the fences at Guildford is all the more frustrating because DSDHA's buildings go a long way towards meeting that goal, perhaps further than any school built recently in the UK. One senses it in the solidity and sobriety of their construction, in their scale — Christ's College is particularly monumental — and in the way that the they com-

mand such an expansive territory. One could not mistake these buildings for offices, housing or any commercial use; they are, in the most positive sense, institutional.

While they share a material palette, the facades of the two schools are articulated in markedly contrasting ways. On Pond Meadow, the bronze-anodised aluminium windows are set flush with the outer face of the wall,

maintaining a tautness that is interrupted only at the entrance and at the building's end conditions. Christ's College presents an altogether more chiselled appearance. Its windows are recessed by 300mm — the length of one of the unusually formatted bricks that have been employed on both buildings — while the depth of a select few openings has been further dramatised by the use of a heavily played reveal to one side. The wall's thickness has also been articulated in a manner that

Windows are recessed by the depth of one of the extra-long bricks that DSDHA specified.





## WORKS: DSDHA



Blockwork is left exposed in the classrooms.

## NORTH-SOUTH SECTION

- 1 Atrium
- 2 Kitchens
- 3 Drama garden
- 4 Theatre



only becomes apparent as we draw close to it. Immediately below each classroom window, we find a zone of brickwork within which randomly selected perpend have been widened and left without mortar. This scattering of openings enables air to be introduced to each classroom by way of its own heat recovery and ventilation unit (See *In Detail*, opposite) while maintaining a sense of the wall's mass in a way that no applied louvre surely could.

DSDHA's Deborah Saunt likens Christ's College to a 17th century hotel particulier, a type that characteristically married a highly formal external expression to a surprisingly animated internal arrangement. "A building like the Hôtel de Beauvais," she explains, "brings the visitor from the public street through to a low entrance archway into a courtyard and then via a grand staircase up to a series of spaces with varying degrees of privacy, and with the promise of a roof terrace — a fragment of nature, offering an idealised retreat with a simple view of the sky." While the horses and carriages may be absent, the spatial sequence offered by Christ's College closely corresponds to this description.

We enter by way of a low-celling recess that extends along much of the principal elevation. Its recessed face — within which the doors are set — is fully glazed, a gesture that literally undercuts our reading of the building's mass. Our sense of spatial compression is maintained by a narrow lobby before we are suddenly released into a triple height room — the equivalent of the hotel's courtyard — which extends up to a series of skylights. Although DSDHA terms this space the atrium, that description conjures a more cor-



The signage is designed by Büro International.

porate image than is suggested by the room itself. Its walls and ceiling are faced in softwood and where openings are made, they are scaled so as to maintain a sense of this surface as an enveloping lining. Indeed, the relationship between the atrium and the corridors that encircle it is gauged with particular delicacy. Fearful of the acoustic implications of the arrangement — the atrium is where the students eat lunch — the school at first argued that all internal openings should be glazed. DSDHA resisted that idea and has been proved right — a tribute to the acoustic insulation behind the softwood boarding but also to the fact that the high level of visual communication allows the space to be monitored effectively by staff.

While Pond Meadow employed a steel structure, Christ's College is a concrete framed building — a choice that is baldly articulated throughout the plasterboard-free interior. The walls of the classrooms are in blockwork; those of the stair cores, in-situ concrete. As with the boarding used in the atrium, both are left unfinished. In fact, pretty much the only painted surfaces are the classroom doors, the departmentally coded colours of which were specified by regular DSDHA collaborator Oliver Klimpel, of the graphic design firm Büro International. While this commitment to the use of as-found materials has strong aesthetic implications it also lends the fabric a robustness that the school will surely

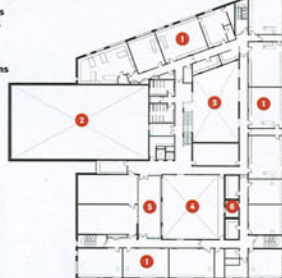
## SECOND FLOOR PLAN

- 1 Classrooms
- 2 Sports hall
- 3 Atrium
- 4 Performance rooms
- 5 Courtyard
- 6 Music rooms



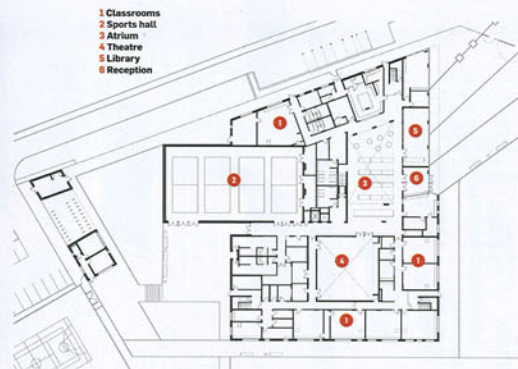
## FIRST FLOOR PLAN

- 1 Classrooms
- 2 Sports hall
- 3 Atrium
- 4 Theatre
- 5 Courtyard
- 6 Music rooms



## GROUND FLOOR PLAN

- 1 Classrooms
- 2 Sports hall
- 3 Atrium
- 4 Theatre
- 5 Library
- 6 Reception



**If a department expands all that is likely to be required is a change of door colour**

appreciate in the years ahead. Although the plan harbours moments of real surprise, its fundamental logic is immediately apparent. On each level its footprint is defined by a horseshoe of classrooms, loaded to one side of a continuous corridor. Staircases are sited at the corners and terminations of this racetrack, their presence registering externally through the provision of windows of unusual height.

The art and science rooms are somewhat larger than the others and sited so as to benefit from north light, but otherwise, the arrangement could hardly be more adaptable. If a department expands or contracts all that is likely to be required is a change of door colour although the blockwork partitions can be stripped out without any structural implication if needed.

Caught within this frame of cellular accommodation are the collective spaces, the presence of which — in keeping with the hotel particular model — is concealed from outside view. The sports hall has been tucked to the rear where its minimally fenestrated bulk goes unnoticed. Meanwhile a double-height theatre lies alongside the atrium, a top-lit space which lends light to the encompassing corridors by way of glazed openings in its perimeter wall. Finally, lodged immediately above the theatre is an enclosed roof terrace, access to which is available solely to sixth-form students. Starkly detailed and offering a view only of the sky, this is very much the "idealised retreat" of Saunt's Parisian imaginings. Some students may take it to be an ideal place to dream of their imminent escape from Guildford, and yet, in providing the city with this fantastically impressive campus, DSDHA has hopefully persuaded a fair few of them that it is a place worth investing their hearts in.

## IN DETAIL

## CHRIST'S COLLEGE SCHOOL GUILDFORD



Christ's College secondary school replaces a series of 1960s structures with a single three-storey building. Classrooms are arranged around the perimeter with views out to the Surrey hills. An innovative ventilation and heating system has been integrated into the facade giving each classroom local environmental control.

Fresh air is delivered to each classroom via its own heat recovery and ventilation unit concealed in a cabinet under a window. The unit contains two fans, one for supply and one for extract and a heat exchanger. Until the room comes up to temperature a damper cuts off the fresh supply and the unit works in recirculation mode with an electric heater battery to heat the air, so no boilers or radiators are needed.

The building has a concrete frame with blockwork infill and concrete floor slabs which have been left exposed. The thermal mass helps store heat and regulate fluctuations in temperature. Once the room is occupied the heat generated by the occupants is sufficient to maintain a steady temperature without using the heater battery. A CO<sub>2</sub> sensor on the unit monitors the air so that the CHRV unit only comes on when fresh air is required. In summer the system provides secure night ventilation to cool the structure.

The external walls have a brick outer leaf. Instead of using conventional grilles some of the perpend have been widened to allow air to pass through to the extract plenum behind. The supply air is brought in through a continuous slot beneath the window cill.

The 290mm x 90 x 50mm bricks have been laid in varying coursing patterns and with deeper raked perpend at low level to break up the scale of the elevation. Rather than a repetitive, industrialised effect the brickwork has been detailed with a sense of craft.

Detail drawing by Graham Bizley

## CUT-AWAY SECTION THROUGH WINDOW AND "BREATHING WALL" HEAT RECOVERY SYSTEM

- 1 Primary structure 800 x 200mm reinforced concrete columns cast in-situ.
- 2 Upper floors 10mm vinyl or carpet floor finish on levelling compound. 90mm sand cement screed on polythene separating layer. 325mm-thick reinforced concrete slab cast in-situ and left exposed in some areas on underside.
- 3 External wall 200mm fair-faced concrete blockwork inner leaf flush with back of columns left exposed internally.

- 4 Window 60mm-wide polyester powder coated (PPC) aluminium window frame with double glazed sealed units.
- 5 Window jamb Proprietary insulated cavity closer and DPC.
- 6 Window head 337 x 20mm folded aluminium lining with insulation on rear side secret fixed to lintel and concrete slab above.
- 7 Wall below cill 1,000mm-high x 100mm-thick reinforced concrete upstand.

- 8 Cill 400mm-deep folded aluminium cill secret fixed on aluminium clips. 18mm plywood sub-cill.
- 9 Air intake Welded stainless steel tray spanning between outer and inner leaves of wall to form air intake duct, with drainage holes at low point.
- 10 Air extract Plenum for air extract between inner and outer leaves open to CHRV unit. Proprietary polymeric cavity tray forming bottom of plenum.
- 11 Brickwork "dovecote" wall Special brickwork coursing to create pattern of open perpend for ventilation. Purpose made stainless steel inserts built into

- 12 Heat exchange unit Integrated classroom heat recovery and ventilation (CHRV) unit. Return air collected at high level and brought to CHRV unit via ductwork.
- 13 Cabinet 950mm high x 650mm deep purpose made cabinets to encase

- CHRV unit. Cabinet frame welded up from 50 x 25mm and 25 x 25mm mild steel rectangular hollow sections. 25mm MDF worktop with laminate finish supported off wall on 50 x 50mm aluminium angle. 18mm MDF removable panel doors with laminate finish. EPDM/neoprene blend seals fixed to frame around removable panels. Internal surfaces of enclosure lined with 33mm acoustic insulation. Continuous slot for supply of air at bottom below front panels.

