Project

Somerville College student buildings

The stair towers on the two accommodation blocks.

Architect
Niall McLaughlin Architects
Location
Woodstock Road, Oxford
Completion date
August 2011

By Amanda Birch

A distinctive feature of Niall McLaughlin Architects' two new 68-student room blocks for Somerville College, Oxford, is their linear shape — they are only 7.5m wide, while the larger of the two is 67m long.

The buildings' form was primarily defined by the constraints of the long and narrow site, says associate Beverley Dockray, and they were designed to make maximum use of prefabrication.

The facades employ a palette of brick, concrete and European oak.

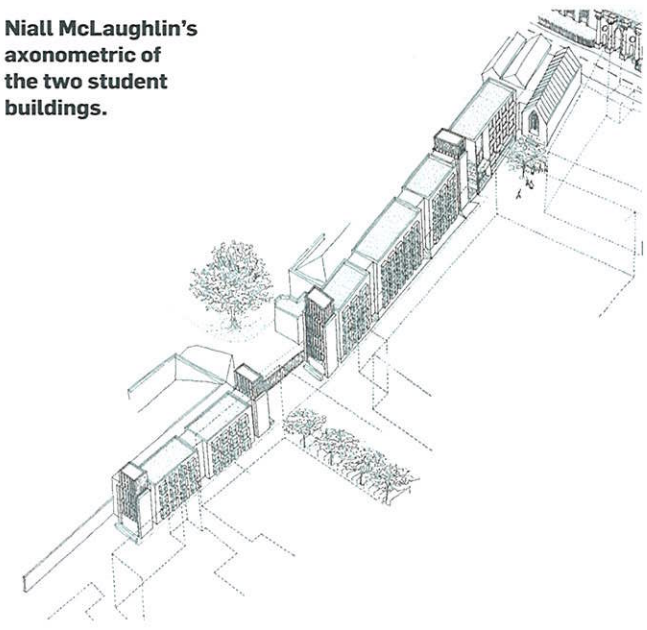
"We have tried to break up the facade by grouping the elements together," says Dockray. "The communal student facilities form a recess in the facade and give it punctuation, and the stair towers at either end of the blocks, which use mainly brick and timber, act as visual markers along a new pedestrianised street between Woodstock Road and Walton Street, called the East West Link."

The student rooms will eventually look out onto a redeveloped site masterplanned by Rafael Viñoly Architects, occupied until 2007 by Radcliffe Infirmary. The 4.3ha site, now owned by Oxford University and renamed the Radcliffe Observatory Quarter, has been flattened, with only the listed buildings and Radcliffe Observatory retained.

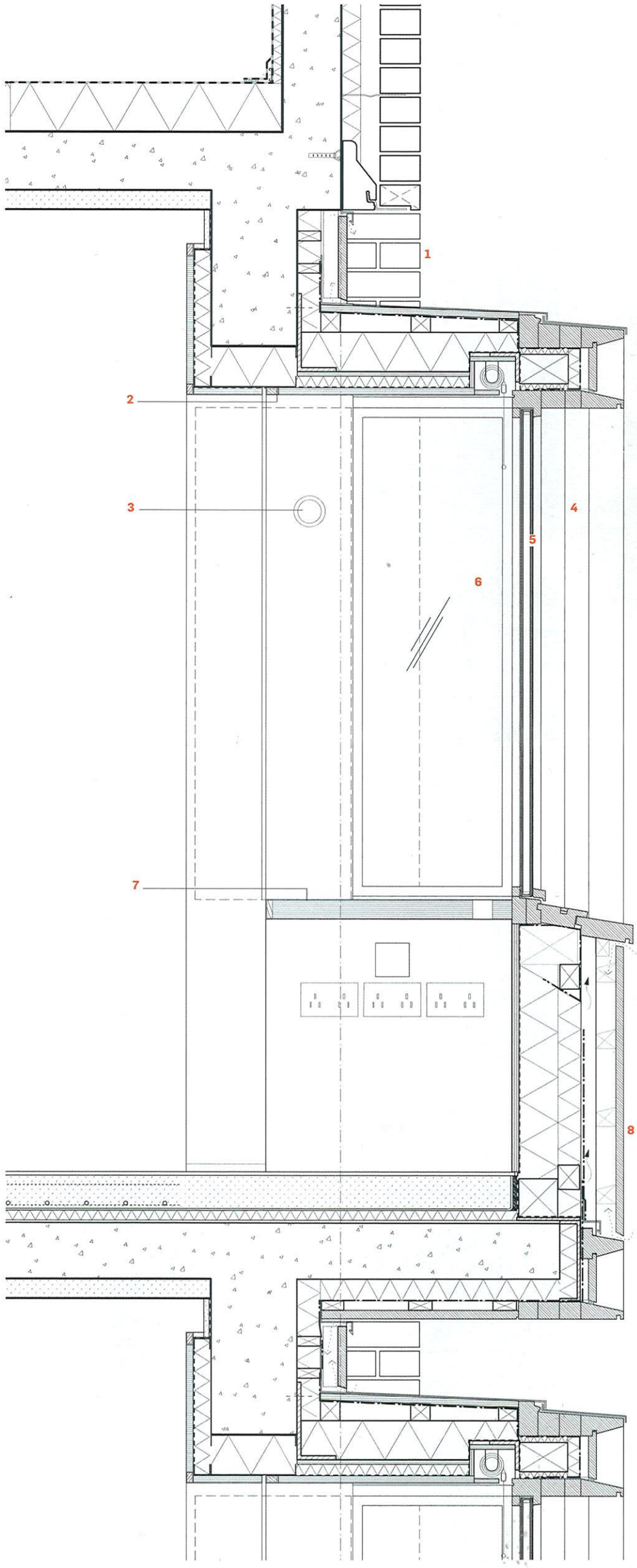
In its competition-winning scheme, the architect squeezed the £8.5 million student accommodation into the narrow space provided, which backs on to an existing boundary wall.

The two blocks are separated by a 12m-wide gap which has been made possible by removing a section of the boundary wall. This also provides a visual connection between the college and the Radcliffe Observatory Quarter.

A gate and railings will be inserted here as the college requires a secure perimeter around its buildings.



Niall McLaughlin's axonometric of the two student buildings.



Typical window unit section: desk

1 WALL BUILDUP
From outside in:
20mm HW timber fascia panel
38x38mm treated SW battens
Timber spreaders with 60mm insulation
Insitu concrete downstand beam
Metal stud system
Veneered plywood

2 Veneered plywood panelling
3 Light fitting recessed into wall
4 HW window reveal
5 Double-glazed fixed window with HW frame and fixed beads so glazing can be replaced from inside
6 Double-glazed fixed HW window in elevation behind
7 Veneered desk with HW lipping

8 CLADDING PANEL BUILDUP
From outside in:
20mm HW rainscreen panel
50x50mm treated SW battens with tapered top edge
38 x 38mm treated SW counter battens
Breather membrane
Timber spreaders at 500mm centres with 60mm rigid insulation
100mm SW framing with 100mm rigid insulation
Vapour barrier
18mm veneered plywood

PROJECT TEAM **Architect** Niall McLaughlin Architects, **Client** University of Oxford and Somerville College, **Structural engineer** Price & Myers, **Environmental engineer** Hoare Lea, **Main contractor**: Laing O'Rourke, **Project manager** PDCM, **Quantity surveyor** Gardiner & Theobald, **Timber consultant** Trada Technology, **Pre-cast concrete sub-contractor** Explore Manufacturing, **Steelwork sub-contractor** Gascoyne & Beever

STAIR TOWER LANTERNS

The two accommodation blocks have a stair tower lantern at each end — making four in total. The lower and shorter (45m) of the buildings has four storeys, while the other has five.

On three sides, the towers employ prefabricated concrete panels into which bricks have been cast as a permanent shuttering.

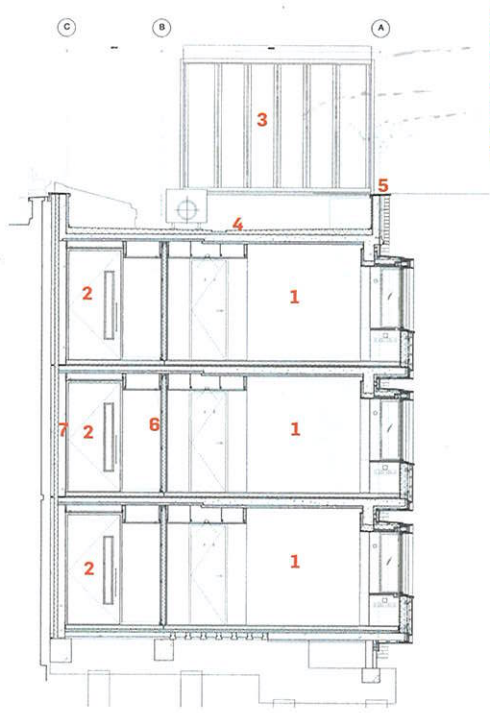
On the fourth side a one-storey solid brick panel is used at ground floor level. From the first floor upwards, the elevation is glazed within a frame of European oak transoms and mullions creating the stair tower screens.

The mullions are spaced at approximately 600mm centres with the transoms spaced at approximately 1,600mm centres.

The windows are double glazed and filled with low-e argon. From the inside out they comprise: Pilkington Optilam K 6.4mm-thick, 20mm argon-filled cavity and Pilkington Optifloat clear toughened 6mm-thick glass. The timber mullions project out from the glazing by 380mm.

The lantern at the top uses the same timber and glass treatment but for all four elevations and, at 3m high, the mullions are significantly taller. A 150mm-thick timber fascia panel has been used at the top and is finished with an aluminium flashing.

The architect originally proposed a solid brick element at the top but the planners thought this would look too monolithic, so it was changed to a lighter glass and timber treatment. The lanterns maximise daylight and "look much better", concedes Beverley Dockray.



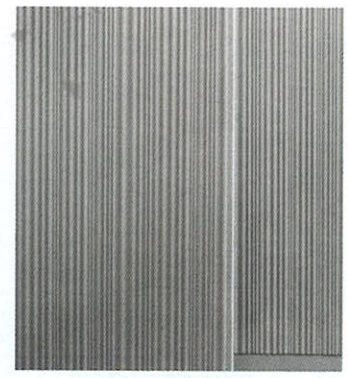
1 Study bedroom
2 Corridor
3 Stair tower
4 Roof
5 Brickwork parapet
6 Plasterboard wall
7 Rear wall

CONCRETE WALL

The rear walls to the two buildings will remain blank since they face a boundary wall. The wall uses a prefabricated precast concrete sandwich panel comprising: 80mm precast concrete on the outside; 80mm of insulation and 150mm of precast concrete for the inner panel.

The space closest to the rear wall will be used for corridors between the student rooms. Beverley Dockray says that since the corridors have few windows, the practice looked at ways to make the space more inviting.

Rather than having the finished surface of the precast sandwich panel on the outside, as is traditionally the case, it put the finished surface on the inner wall, using a textured pattern cast into the concrete.



Reckli's ripple effect finish.

Reckli, a firm specialising in unusual textured finishes for concrete, created a ripple effect for the finish using a bespoke latex mould. The textured panels will be left unpainted and will be coated with an anti-scuff treatment.

TIMBER WINDOW UNITS AND BRICK PIERS

Bay window units are prefabricated from European oak.

The rear elevations to the two buildings face south onto a boundary wall while by necessity the study bedrooms face north. The architect was therefore faced with the challenge of finding ways to maximise daylight and views.

The practice achieved this by inserting rooflights in the top floors and pushing the study bedroom windows out from the front of the building to create a box bay window.

The 2.6m tall x 3.4m wide window units are prefabricated from European oak. Externally, the units comprise on one side, a large 1.4m wide by 1.2m tall fixed double glazed window and, below, a solid 1.4m wide x 800mm tall timber panel while to the other side a storey-height x 1m-wide vertical solid timber panel. A desk will be positioned on the window side, while the other side will have a window seat and pinboard.

There are two glazed sidelights to the window unit but, like the main window, these are fixed. Instead the room is ventilated by solid timber ventilation shutters on either side of the unit. The shutters are full-storey height, hinged and open to a width of 100mm, also allowing additional daylight into the room.

The window units are framed on either side by prefabricated 660mm-wide brick piers. To make the panels, red multi-bricks are cut in half lengthways and the flat side is laid face down in the mould. Foam rods are laid in between to achieve accurate coursing. Concrete is poured over which flows into the brick frogs creating a 250mm deep panel.

The brick piers are connected to the main structure of the building via prefabricated steel connectors cast into the panels.