

Service Group:
Schools, Children & Families

Project Sponsor:
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Project Manager:
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Procurement Management:
MPI

Building Design:
Haverstocks

Structural Design:
Skanska Technology

Services Design:
Skanska Rashleigh
Weatherfoil/HBS

Landscape Design:
Wynne-Williams

Health & Safety Consultant:
Capita Symonds (CDM
coordinator)

Cost Management:
Skanska Construction

Construction:
Skanska Construction

Independent Certifier:
Capita Symonds

Chelmsford, Columbus School

The Columbus School site is 12000m² and is on the site of the previous Woodlands School.

The project consists of the provision of a new teaching facility to the west of the site and the refurbishment of the east wing.

The site is bordered by housing to the south and west, by Oliver Way to the north and by Partridge Avenue to the east. It is located in a low risk area of flooding.

Columbus caters for children with a wide variety of profound disabilities. The School Campus will cater for children aged from Nursery to Year 10 and the College Campus in Partridge Avenue currently also under construction will cater for students from Year 7 to Year 11. There will also be a FE Department on College Campus which has students from Year 12 to Year 14.

The project required a building that enhanced the existing architecture while adding further state of the art facilities; the building was in accordance to ECC New Model Special School (NMSS) brief and DCSF Building Bulletins.

The School identity is of modest scale, mainly single storey, with two floors only where appropriate. The building provides an environment of protection and nurture for the younger user.

The clear cluster typology within the school reflects the key stage identity and rite of passage.

The new West Wing building will provide a new entrance including reception and Chief Executive's office, a restaurant and kitchen, KS2 & KS3 classbases, an Art/Creative Zone and a Food Technology room, and an 'Immersive Learning Environment' where students immerse themselves in situations, such as shopping or a train station, before experiencing it first hand. This enables them to prepare for participating fully in society,

The East Wing remodelling will provide new admin areas, a main hall, an Eco-Zone, a soft room, meeting rooms and the nursery.

Externally, the landscape has been designed to enable learning to take place in these areas through eco-trails, natural play equipment, sensory gardens, sound posts, tree top cameras, Eco-courtyard, a Woodland Grove 'Bird World' and outdoor classbases. There will also be a redeveloped car park and new cycle parking. Additionally there will be a memorial garden which will be a quiet area for the pupils.

The design set out to achieve 'green' buildings and the 'Very Good' score for BREEAM reflects this.



Vital Statistics

Floor Area in m²:
1500m²

Construction Cost:
£20.3m (incl College)

OJEU Date:
November 2008

Operational Contract Period:
25 years

Completion Date:
January 2012

Site Health & Safety Record:
No reportable accidents



Structural Design Statement

The building comprises of a steel frame with pre-cast concrete flooring units.

It is proposed to extend the existing Woodlands School, Chelmsford to create the Columbus School. The new structure will be a braced steel framed building. It comprises a two-storey northern wing and a single storey southern wing, separated by a double storey atrium space, architecturally referred to as the 'jungle' space. There is a link bridge spanning over the jungle and connecting the first floor slab of the north wing to the roof slab of the south wing. There is a further element of refurbishment of the existing structure.

Substructure

This comprises mass concrete pads (carrying heavier point loads) interlinked by means of mass concrete strip footings (carrying masonry sleeper walls). The geotechnical investigations have revealed that the site does not contain anything that is aggressive to buried concrete.

Superstructure

The floor plates are comprised of 200 deep hollow core precast slabs resting on masonry sleeper walls at ground level and typically on pinned 203 deep slim floor steel beams at upper floors with a structural bonding layer over. The roof is an 'inverted roof' type construction comprising approx 50mm ballast overlying 250 deep insulation, overlying 75mm structural screed, overlying 200 deep hollowcore precast slab. Waterproofing is by proprietary Hydrotech system.

The external walls comprise metal stud inner leaf with a Rodeca (plastic based) cladding system.

Building Design & Sustainability Statement

The materials and form used were designed to be relevant to the rich landscape and to provide a safe and welcoming environment. The School has been designed to conserve and enhance the best features of the previous site – such as the boundary hedge in Oliver Way and the existing trees around the west boundary and in the memorial garden. The materials used for the building are robust, low maintenance and meet the targets for sustainability. A low embodied energy approach has been used in the building. Timber weather boarding was used as it is hard wearing and supports the school's ecological theme.

ICT Statement

The ICT provision at Columbus School and College is designed to be highly personalised and progressive. The addition of new technologies will build upon current practice and is focussed on the varied needs of all learners. The key cornerstone is the 'Rights of Passage' ethos that enables all learners to journey towards independence and equal accessibility of opportunity. The new and emerging technologies provided will prioritise the specific needs of individuals, as well as supplementing opportunities for group interaction. Cutting edge technologies will be included in the form of an Immersive Room for both the School and the College. These rooms are innovative, exciting and pivotal learning spaces for a wide range of pupils in the School. The integrated Change Management programme is aligned to the School requirements and priorities, to embed the technology into the learning programme.

Construction Statement

The works at Columbus School site comprised of a new school facility to the west of the existing school, demolition of areas of the old school to enable the new central link and hall area to be constructed and the refurbishment of eastern wing elements of the existing school. The southern school wing, which was built under a separate project in 2008, remained largely untouched by the redevelopment works. The new works were of one and two storey; brick clad, steel frame construction on pad and strip foundations

Environmental and Services Design Statement

Low NOx and CO2 gas fired boilers will be used to heat the school and to generate domestic hot water. A natural ventilation strategy will be used in offices and nursery areas using single sided openings. A natural ventilation strategy was followed in teaching spaces using 'mixed mode' method provided by windows at high and low level working with local transfer fans when required. High efficiency fluorescent light fittings with energy-saving controls have been used in all areas. The heating systems in the new and re-modelled areas of the School derive hot water from the central gas fired boiler plant.

Landscape Statement

The landscape design for the school was designed to compliment the existing school grounds. The overall design for the school grounds achieves a naturalistic setting and it welcomes students and the community to enjoy and study wildlife. An eco-trail starts from the jungle area of the building and take students through a variety of habitats. These include the wetland overlook area, a planted bank, willow arch zone, hedgerow and copse areas and a natural play space that allows for play, seating and learning opportunities. Each class base has a dedicated outdoor play space with a sheltered covered area and linked with a path. The spaces provide screened external areas for student motor therapy development. The routes into the site and entrance areas are enhanced with green vegetated walls and a new courtyard space has been created outside the admin area with a formal landscape design.

