Won Best Education Building 2013 and Bronze CCS national site award

Installed 103 solar PV Panels

1000m³ of excavation waste saved

The school harvests rainwater to flush toilets

CASE STUDY: CHILTON TRINITY TECHNOLOGY COLLEGE

Chilton Trinity Technology College is one of three new Building Schools for the Future (BSF) projects in Somerset. The two storey building provides a teaching space for 1,100 pupils and a large leisure centre for community use with four sports courts, dance studio, fitness suite and swimming pool.

SUSTAINABLE DESIGN

BAM designed and built the School with sustainability at the heart of the process, particularly focusing on energy and carbon. The project achieved its targets of BREEAM Very Good and EPC A. BAM FM now manages the building ensuring in use performance targets are met or exceeded.

Chilton Trinity Technology College was the winner of the Local Authority Building Control (LABC) Best Education Building 2013 for the South West region. It was also presented with a Bronze Considerate Constructors National Site Award.

CARBON

During the construction phase three motion activated, solar-powered flood lights replaced traditional diesel driven temporary lights, saving money and CO_2 emissions.

Biomass boilers and 103 solar PV panels provide heat and electricity for the school, solar thermal panels provide hot water for the leisure block and a combined heat and power plant serves all three schools in the partnership with low carbon heat and electricity.

The school's design maximises the benefits of natural light and ventilation. Windows in classrooms and corridor atriums allow sunlight to flood in, while cross ventilation creates a stack effect that draws fresh air into the building. This reduces the need for artificial light and mechanical ventilation, creating a comfortable and productive internal environment for staff and pupils.

WASTE / RESOURCE EFFICIENCY

By considering resource efficiency from the start, we reduced waste produced onsite. We used prefabricated components such as a fibre glass roof structure and were able to use standardise plasterboard sizes by reducing room heights, leading to less 'cut offs' and related waste.

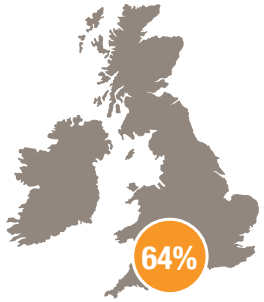
We reused demolition waste on site (through on-site crushing and grading) reducing the need for virgin materials and additional transport.

The schools two multi-use games areas use a permeable surface above a sustainable urban drainage system; allowing us to avoid the need for a reduced level dig, saving around 1000m³ of excavation waste.

'IT'S BEEN A PLEASURE WORKING WITH BAM. THE TEAM MANAGED THE CONSTRUCTION PROGRAMME VERY WELL, ESPECIALLY WITH THE LATE ADDITION OF THE POOL. TO DELIVER ON TIME WAS FANTASTIC.'

Caroline Barnes, Senior Project Manager, Somerset County Council

Completed: July 2013
Customer: Somerset County Council
Architects: Scott Brownrigg
Mechanical & Electrical consultants: Arup
Structural Engineer: Arup
Project Manager: BAM PPP
Quantity Surveyor: Faithful and Gould



64% of operatives employed were from the local community

Staff bicycle provided for lunchtime trips to shops

Bat boxes were installed throughout the school

WATER MANAGEMENT

Sustainable urban drainage systems were crucial as the site is situated on a floodplain. Permeable paving on car parks and games areas, underground water storage, swales and attenuation ponds all help reduce surface water run-off and allow water to percolate into the ground slowly, reducing risks of flooding.

COMMUNITY ENGAGEMENT

A new footbridge across a rhyne (drainage ditch) was needed, so with the help of structural engineers, local engineering students were challenged to design one. This gave the students an insight into the world of engineering and won first prize in the Project/Vocational Award through Somerset Education Business Partnership.

Chilton Trinity School continued to operate in existing buildings onsite during construction, so the site team were engaged with them throughout. Our site team took part in a student mentoring scheme, fortnightly site visits were organised for students and the site took on work experience students each year.

The site team also worked with local community projects; including providing materials and labour to assist remodelling a local gymnasium and landscaping the local Wembdon allotments. Working with our subcontractor we donated 20 tonnes of stone and provided labour to improve the allotments.

Three members of the site team raised £9,000 for our charity partner Barnardo's by trekking through the Himalayas.

HEALTH AND WELLBEING

We had no onsite parking and instead encouraged staff to use bicycles to make local trips during the day. We provided bicycles, storage and showering facilities to encourage all staff to cycle wherever possible. This reduced car travel and acted as a great means for staff to get daily exercise.

BIODIVERSITY

The site is rich in wildlife so we had to plan carefully to ensure no damage was done. We created shelters to help the relocation of grass snakes and newts and relocated badger setts. We added mature trees and hedges to compensate for hedgerows which had to be removed.

As the rhyne is home to water voles we planned construction of the new footbridge during the autumn to minimise disruption to them.