Healthcare goes green in Tyneside

South Shields’ new £6.7m Flagg Court development replaces an existing overcrowded and dilapidated primary care centre. Designed with ecologically-friendly principles, the trust is using ProCure21 to deliver several innovative techniques to ensure that it complies with energy targets present and future.

Overview

South Tyneside NHS Primary Care Trust (STPCT) was concerned that conditions in its existing primary care centre were severely affecting service delivery. The trust provides primary care – including GPs, health visitors, community nurses, dentists and pharmacists – to 20,000 local residents. The GP practices that will occupy the new building have a combined patient list of 14,600 – one of the highest list sizes per GP in South Tyneside.

It was impractical to refurbish the existing centre as it was too small to meet projected demands. The trust was also aware that the building would fail to meet future statutory requirements, such as new building regulations and energy emissions. These include a mandatory energy target and environmental assessment utilising the NHS Environmental Assessment Toolkit (NEAT).

NEAT is a requirement of the business case approvals process and the tool by which the Department of Health understands that a building has green credentials.

The trust drew up a concept for a brand new primary care centre and appointed a ProCure21 PSCP in March 2005.

Work started on the brownfield site in January 2006, with finance for the scheme secured from STPCT and Northumberland, Tyne & Wear Strategic Health Authority.

The successful PSCP made the trust’s remit for sustainability a key element of their bid and, on appointment, engaged with Lionel Hehir, Director of Groundwork South Tyneside. Groundwork South Tyneside is a member of the National Federation of Groundwork Trusts and works
Achievements and benefits

- Sustainable, efficient and quality design achieved to budget.
- New, spacious and purpose-designed centre will replace existing inadequate facilities and improve service delivery. STPCT Chief Executive Roy McLachlan said, “The development will make it much more convenient for people, who will no longer have to travel to get the care they need.”
- The building will meet statutory requirements now and in the future and take forward the trust’s vision for future primary care service delivery. It is one of a number of new primary care centres being developed across Northumberland and Tyne & Wear and is part of a drive to provide more services closer to where people live.
- The centre will accommodate additional GPs from the locality and provide a wide range of primary and community care facilities.
- Early involvement of experienced artists will provide high quality, themed artworks around the building (see principles and objectives) assisting recovery and wellbeing.

Principles and objectives

STPCT wanted a modern, accessible and fit-for-purpose facility, in line with The NHS Plan as well as its own estates strategy.

Walter Hall said, “The trust was especially keen on two principles right from the outset – that the development should be ecologically friendly and sustainable, and that it should incorporate artworks that would contribute to the wellbeing of the building users.”

The PSCP approached Commissions North, part of the Arts Council of England, to talk through the project. Commissions North then brought in three experienced artists to be involved with the development, each working in different media.

Walter Hall said, “The concept of an environmentally friendly building was one originally proposed by our Chairman, Stephen Clark. The trust made this a part of the shortlisting process for the selection of a P21 partner by asking interested parties to answer the question ‘The trust is keen to have an ecologically friendly building; what would your approach to this be?’”

Walter said, “The P21 partnership approach allowed joint working along with the structural engineers and sub contractors, all of whom were better enabled to contribute to the planning of a building that was as ‘green’ as practicable.”

He added, “Early involvement was essential to the delivery of this project. The environmental elements of the design such as the alignment of the building to maximise natural light and the thermal design could not have been ‘added on’ at a later stage.”

It would have been more difficult, he said, to engage all of these parties working as an integrated design team under a traditional contract.
Major issues

The site is in a congested area with neighbouring residential properties. The area experiences social deprivation and site security has, and will be in the future, a priority. “Part of the rationale behind the new primary care centre is that it will help regenerate the area,” said Paul Williams. “The trust sees it very much as a community building.” The centre also follows the NHS model for primary care, based on bringing facilities and services into the heart of communities.

Successful initiatives

Sustainable Design

- Design concept to bring as much natural light into the building as possible through light wells – particularly to deep plan office locations.
- Natural ventilation paths introduced through clerestorey roof lights in order to minimise the requirement for air conditioning thereby avoiding the use of environmentally damaging refrigerants and gases like nitrous oxide.
- Stack effect of natural air passage through the building.
- Night time cooling accommodated through roof lights.
- Use of green materials e.g. composite timber/aluminium windows, linoleum floor coverings where appropriate (linoleum, unlike vinyl, is biodegradable).
- A ‘Green Guide to Specification’ analysis was undertaken and an overall rating assessed for building components.
- Rainwater recovery system incorporated into design. Water is collected in tank and pumped back into the building for use in public areas e.g. toilet flushing.
- Roof insulation was increased in density to prevent heat gain through the roof. Insulation has no CFCs (CFCs are the main cause of stratospheric ozone depletion).
- Consultants undertook thermal modelling to assess the building’s thermal performance. Using specialist software, they simulated what temperatures would be within individual rooms over the year at any time of the day. This determined whether rooms needed only natural or mechanical ventilation. Heat loss through the building is better than the regulations require.

Engineering Services

- The domestic hot water system is solar powered – four solar panels located on roof.
- Daylight and movement sensors are provided for internal lighting to ensure lighting is used as efficiently as possible.
- Air conditioning is only provided in areas which could potentially overheat e.g. meeting rooms. These areas were identified through a thermal modelling exercise.
- Non-concussive taps installed into sink units (taps cannot be left running accidentally).
- Water leak detection was installed – shuts off water supply automatically if taps left on.

Contacts

For further information on this scheme contact:
Walter Hall, Project Director for STPCT
t: 0191 2831000
e: walter.hall@stpct.nhs.uk

For construction related queries, please contact:
Paul Williams, HBG Health Supply Chain Performance Manager
t: 0113 247 0602
e: paulwilliams@hbgc.co.uk

For ProCure21 queries please contact p21helpdesk@dh.gsi.gov.uk

Lorraine Brayford, the Department of Health’s Programme Manager for Sustainable Development (Health Estates & Facilities), said that emerging research demonstrated the long-term benefits of well-designed and maintained buildings. “For example, there is growing evidence linking ‘greener’ buildings with higher staff productivity and lower absenteeism rates, and better performance in employee recruitment and retention. Research is also beginning to show that these types of buildings have a tangible and positive impact upon patient recovery rates.”