



## Princess Margaret Hospital (PFI)



**Location** Swindon, UK  
**Client** Swindon and Marlborough NHS Trust

**Main Contractor** Carillion Building Special Projects

**Contract Value** £98 million

Design, construction, commissioning, operation and maintenance of a new 486 bed Acute District General Hospital

### Sustainable Development:

The commitment to sustainable development was high on the agenda of the way this project was going to develop. In order to ensure the correct path was followed to achieve this goal the team adopted an approach to caring for the environment, based upon a concept called The Natural Step. This provides a focus to the idea of sustainable development and draws together environmental, social and economic issues. Carillion were the first construction company in the UK to take such an approach.

Throughout 1998/1999 members of Carillion personnel and the project team were involved in workshops to gain a fuller understanding of The Natural Step and how it could be applied to the project. From these workshops a draft Sustainable Development Action Plan was produced. Opportunities to extend this into the supply chain were also discussed as this would improve supplier performance and raise awareness of Carillions sustainability strategy.

The Action Plan provided short, medium and long-term actions. All Carillion employees were involved in introductory workshops so that everyone knew the purpose of The Natural Step and the Action Plan before work began.

This formed the basis for the environmental initiatives put into place at the hospital

### Waste Management:

One target was to reduce by 50% the amount of waste taken to landfill compared to the Dartford & Gravesham New Acute General Hospital. Based on the three principles of waste management to Reduce, Re-use and Recycle 16 months into the project there was evidence that they were on course. During this period Dartford and Gravesham had generated 2100 tonnes which was actually 50% better than the industry standard. However, the Princess Margaret site had produced just 250 tonnes.

All waste material is segregated on site so that it can be sent directly to the necessary place to be recycled. Materials are segregated into timber pallets, plasterboard, plastic, cardboard, hard-core, arboricultural waste (green waste) and general waste

Green waste, timber, paper and cardboard are composted within a recycling area on site. The compost produced is used on site to enhance topsoil suitability for use within the landscaping. Wood chipping mulch produced from timber pallets, off-cuts and topsoil are also re-used where possible within the landscaping to further minimise waste.

The supply chain aids this process with plasterboard being returned to the supplier, Lafarge. Other suppliers take back and recycle packaging of. Purchasing policies mean recycled materials and those with a long life are favoured. Choosing products from sustainable sources closes the loop of recycling and re-use as well as supporting and encouraging the growing industry.

### Environmental Initiatives

**Sustainable Development** Adopted the approach of The Natural Step

**Waste Management** Waste segregation and recycling, purchasing policies

**Energy Reduction** Energy efficiency is designed in to the fabric and services of the building

**Wildlife Protection** Wildlife management plan produced in association with The Wiltshire Wildlife Trust

**Water Conservation** Cistern misers and 'Hippos' fitted

**Community Liaison** A number of schemes to involve and inform the local community

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## Energy Reduction:

Energy efficient features were incorporated at the design stage. This includes solar glazing, effective insulation materials and low energy lighting throughout the hospital.

Equipment on site was chosen for its high efficiency. Thus, reducing both energy and costs.

A large proportion of energy use during construction is in transport. Therefore, vehicle loads were increased to minimise vehicle movements. There were also routes that were planned to be the most efficient and to cause the least amount of disruption. This was beneficial to the environment but also socially and economically.

## Wildlife:

A habitat management plan was introduced to minimise the impact of construction on flora and fauna. Part of this was a balancing pond. The pond will form part of the hospital drainage and the surrounding area has been developed as a "natural habitat". This was developed in conjunction with the Wiltshire Wildlife Trust.

Trees were planted as part of the landscaping of the hospital. Native trees were planted to encourage natural habitats of the UK and to prevent problems of domination that can occur when 'alien' plants are introduced.

There were also populations of flora and fauna already established in the area. They were noted and protected, for example, with the provision of bird boxes.

## Water Conservation:

Another resource that can be 'wasted' is water, especially as at its peak it had 500 people on site. The site has fitted cistern misers to office and site urinal flushes, which has saved on average 4,800 gallons (21,821 litres) of water per week. Over the whole construction period this will save 518,400 gallons (2,356,646 litres) of water. The result of this being a £1,451 saving in treated water costs. Also, £31,200 is saved from the reduction in pumping and tanker disposal costs.

Another initiative was the installation of Water Board 'Hippo' water saving devices. They work by reducing the amount of water needed to flush the toilet. It is thought they save approximately 1.5 litres of water every time a toilet is flushed.

## Community Liaisons:

Several schemes have been incorporated to involve the community during the construction. Lorna Slack, the Community Relations Officer and Gerry Grimes, the Health and Safety Officer, visited the schools to discuss Health and Safety. There was then a Safety Poster Competition in partnership with Duffy Construction.

An art competition for the local children with 3 age categories also took place. There was a winner and a runner up in each, and an overall winner who won a TV and Video for their school. Various designs were reproduced and placed on Swindon's site hoarding. It is hoped that these posters will be transferred into the Children's ward at Princess Margaret Hospital.

As part of National Construction Week on 4th April 2000 (Sustainability Day) Andrew Brown had a radio interview with the Wiltshire Sound detailing all the sustainable things that they are doing at the Princess Margaret site and updating the public on the progress of the hospital.

Other events include: sponsorship of a roundabout "Tots for Teens" - Trees for the Future - the planting of trees on the site. Working with crime prevention