CASE STUDY: Aquatics Centre

LOCATION: Stratford, London

CLIENT: Balfour Beatty Construction Scottish & Southern

CONTRACT DURATION: 2012

The Project

The project involved the construction of the Olympics Aquatic Centre, comprising two 50m swimming pools and diving pool with facilities for competitors and 17,000 spectators.

Allied to the design of the Aquatics Centre, the Olympic Delivery Authority (ODA) seek to make the 2012 games the greenest Olympics, seeking to meet the following sustainability targets:

- 25% by mass of the total aggregates are to be recycled or secondary
- 20% by value of materials are to be recycled or from secondary sources.
- 50% by mass of all the construction materials need to be delivered by sustainable transport.
The Benefits

- 104,000 tonnes of material avoided from landfill, equivalent to 96% of project waste.
- Saved 940 tonnes of CO\(_2\) from lorry movements alone by utilising sustainable transportation. Equivalent to 52.4% of material delivered.
- 20,800 lorry movements through the Olympic Park and local roads were prevented.
- 76% (by value) recycled content was achieved, far exceeding the clients target of 20%.
- Saved £1,000,000 by re-using ‘Site Won’ materials.
- Combined, the use of secondary aggregates prevented the use of 26,500 tonnes of primary virgin aggregates.
- Using the cement replacements saved approximately 2,700 tonnes of CO\(_2\) that would have been produced in the manufacture of cement.
- Sustainable Timber – reengineered roof has used 50% less tropical Hardwood than the original specification, giving a saving of £30,000.
- An estimated 104,000 tonnes of material was re-used onsite, reducing the requirement for virgin aggregates and reducing waste
- A monetary saving of over £1,000,000 was achieved by re-using the material in the permanent works

Key Learning Points

- Sustainability themes were embedded in our design appointments and subcontract orders, design squad checks focused on sustainability both in material selection and production. The employer, contractor, designers and subcontractors worked collaboratively to deliver sustainable construction solutions.
- By using innovative solutions we have been able to exceed the CO\(_2\) reduction and sustainability targets and objectives set by the client on this prestigious project. We have also been able to make progress towards the targets of waste reduction and use of sustainably sourced materials set out within our own vision and roadmap.

Schedule of Awards

- 2011 & 2012 Considerate Constructor’s National Site Award – Gold Awards
- 2012 Considerate Constructor’s National Site Award – Most Considerate Site Runner up
- 2009 Contractor Safety Shield – Team Aquatics Site Services
- 2009 Newham Education Business Partnership – In recognition of outstanding support given to the partnership and the young people of Newham
- 2010 ODA – Diversity Awards – Best All Round Company Contribution
- 2010 ODA – Health, Safety & Environment Awards – for exemplary standards in Health, Safety and Environment
- 2009 Olympic Delivery Authority (ODA) – In honour of positive achievements made to ODA’s equality and inclusion aims
- 2010 ODA – Highly Commended for Lessons Learned Team award
- 2010 SHELT – Winner Best Project
- 2009 & 2010 SHELT – Most Effective Training
- 2010 SHELT – In recognition of Aquatics contribution towards the Olympic Park Venues Projects achieving 1,000,000 working hours without a reportable accident
- 2010 SHELT – Best Project Category for Safety, Health & Environment Leadership Team Awards
- 2010 SHELT – Most Effective Category for the Safety, Health, Environment Leadership Team Awards

Learn more

Emma Southcott, Sustainability Manager
emma.southcott@balfourbeatty.com

For more information on The Green Construction Board visit www.greenconstructionboard.org or email green.board@bis.gsi.gov.uk