



# 2013 Outstanding Achievement Awards

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# Photos from the previous OAs ceremony in 2011...



# 2013 CEEQUAL Outstanding Achievement Awards

## Introduction

The Outstanding Achievement Awards (OAAs) are a new type of CEEQUAL Award created to recognise and acknowledge projects that have demonstrated pinnacle best-practice performance in any of the assessment manual sections (see below) of their CEEQUAL Assessment, irrespective of the total score achieved for the overall Award.

Assessment manual sections:

1. Project/Contract Management
2. Land Use
3. Landscape
4. Ecology & Biodiversity
5. The Historic Environment
6. Water Resources & the Water Environment
7. Energy & Carbon
8. Material Use
9. Waste Management
10. Transport
11. Effects on Neighbours
12. Relations with the Local Community & other Stakeholders

## Welcome from CEEQUAL

We are very glad to present the second OAAs in conjunction with CEEQUAL's 10th Anniversary of operations. This special event commemorates a diverse selection of nominated projects and contracts for outstanding excellence within an area of the assessment.

Our independent expert Judging Panel received nearly 50 nominations, carefully examined the evidence submitted and have chosen some worthy winners and highly commended projects/contracts. You will notice that a few sections do not have a winner and/or a highly commended project – this is because the OAAs rewards pinnacle best practice, and if the Judges concluded that there are no projects in any section that are worthy of winning then no winner's award has been given.

We also pay tribute to Eric Hughes, who is stepping down in June as CEEQUAL Chairman after seven years of dedicated service to CEEQUAL. His guidance and support have facilitated CEEQUAL's ability to grow as a now-global sustainability assessment, rating and awards scheme for civil engineering.

Lastly, we thank our proud sponsors Lafarge Tarmac for supporting this event.

## and the winners are...



# I. Project Management

## WINNER

### M25 Widening J16–23 & J27–30 & Hatfield Tunnel Refurbishment

Client: Highways Agency | Designers: Atkins, Ramboll, WSP  
PFI Contractors: Skanska Balfour Beatty JV, Connect Plus

**DESCRIPTION:** The M25 Widening used CEEQUAL to drive improvement in the sustainable delivery of this £1bn major infrastructure project. The contract comprised seven individual Whole Project Assessments, all achieving 'Excellent' award ratings (the highest score being 92.5%). CEEQUAL helped bring a clear structure to the work and ensured learning was propagated across the project and the joint venture companies. The team decided to use CEEQUAL as a tool initially to benchmark the sustainability of the project and then to drive and monitor improvement as opportunities became clear.

**ACHIEVEMENTS:** Outstanding project management led to savings of 100,000 tCO<sub>2</sub>e and £37.5 million across the project; Identifying (and using) external suppliers of recycled materials to reduce carbon emissions; Increasing CEEQUAL assessment scores by 12% from first assessment to last.

**JUDGES' QUOTE:** *The stand out element of this submission was how the Project Team embedded CEEQUAL into the project management process in a way that enabled lessons to be learnt and behaviours changed from one phase of work to the next. This was demonstrated in the successive improvements in the CEEQUAL Scores.*



## HIGHLY COMMENDED

### A46 Newark to Widmerpool

Client: Highways Agency | Designer: URS | Contractor: Balfour Beatty Major Projects Division

**DESCRIPTION:** The A46 Newark to Widmerpool is part of a strategic route connecting the East and West Midlands from the M1 at Leicester to the A1 at Newark. The £375m Highways Agency early contractor involvement project included constructing a 17-mile two-lane carriageway from the A606 two-level junction at Widmerpool to an improved roundabout at Farndon. The environmental aim during the dualling was not only to protect the natural habitat, archaeology and the agricultural context of the route during construction, but also to make improvements for the long term future of the area. Everyone on the project was involved in developing sustainable best practice, and a Sustainability Action Plan was created for each year of construction. Monthly Client meetings provided regular opportunities to review any issues using the Highways Agency Motivating Success Toolkit. The client measured contractor performance on a range of deliverables, which were incorporated into construction planning.

**ACHIEVEMENTS:** First Major Balfour Beatty Project to achieve Zero Waste to Landfill ten years ahead of the Balfour Beatty 2020 Zero Waste to Landfill Vision and two years before the WRAP Halving Waste to Landfill target; 80% of materials responsibly sourced; 18 ecology ponds and ditches constructed; 14 new balancing ponds were designed using SUDS techniques to maintain the hydrology of the site and to control any increased run-off and pollution as a result of works; 60ha of grassland created to replace 32ha lost; 5-year planting and maintenance schedule put in place post construction.

**JUDGES' QUOTE:** *It was very clear that the project management team had sustainability performance in their sights from day one on this project. The whole team working effectively with this common goal has enabled the achievement of some very high performance.*



# Contract Management

## WINNER

### London South Area Highway Maintenance

Client: Transport for London | Contractor: Enterprise Mouchel (EM)

**DESCRIPTION:** In 2007, EnterpriseMouchel (EM) was tasked to provide maintenance activities and ad-hoc improvements works for the southern Highways and Maintenance Works Contract area of the Transport for London Road Network. Using specific requirements (such as Environmental Service Performance Indicators (SPIs), the formulation of an annual Sustainability Plan and ISO 14001 accreditation) the contract management team established an outstanding framework whereby the environmental impacts and opportunities for environmental enhancements were identified, assessed, managed and monitored. Partnership between client and contractor was a key driver to the contract management's success.

**ACHIEVEMENTS:** 100% of the fleet vehicles met Euro 4 and 5 emission standards (SPI 22); 99.7% excavated and 96.4% of non-excavated construction and demolition waste reused or recycled (SPI 24/25); EM provided free expert advice to supply chains used to develop and implement environmental management systems; Team worked with TfL in the formulation of a climate change adaptation action plan; Won multiple other awards such as Transport Partnership of the Year at the London Transport Award, and platinum award from the Mayor of London Green500 scheme for reductions in CO<sub>2</sub> emissions.

**JUDGES' QUOTE:** *The development of this contract showed clear consideration and thought on the range of environmental betterment that was required from the contractors. This was then converted into a range of incentivised KPIs that were written into the contract requirements.*



## 2. Land Use

### WINNER

#### M25 Widening J16–23 & J27–30 & Hatfield Tunnel Refurbishment

Client: Highways Agency | Designers: Atkins, Ramboll, WSP  
PFI Contractors: Skanska Balfour Beatty JV, Connect Plus

**DESCRIPTION:** Junctions 16–23 and 27–30 of the M25 interfaced with 10 historic landfills. Approximately 90% of the 7km section between Junctions 21a and 22 involved works in or adjacent to these landfill sites. As a result, the M25 developed an innovative method to identify contamination and make it clear and simple to understand at site level. Only 8,000m<sup>3</sup> of material was removed from site over the duration of the project, the vast majority of this being material from the landfill areas. This figure was half of that planned during this phase and a huge reduction when compared with > 1 million m<sup>3</sup> indicated in the Environmental Statements. In addition to the time and cost benefits offered by minimising excavation, the strategy minimised workforce contact with the landfill materials, leachate and gases.

**ACHIEVEMENTS:** Desk based Ground Investigation Report produced for historical information – addressing geotechnical risks to the project; Project also won a Brownfield Briefing Award in 2011 for the 'Best Re-use of Material'; Retaining solutions were used to create space, widening the carriageway within the existing boundary.

**JUDGES' QUOTE:** *The use of a simplified colour coding system for different contaminated material categories along with the innovative use of electronic tracking technology usually used in the parcels sector has simplified what many find to be a complex issue and enabled the M25 team to achieve very high levels of reuse of contaminated material.*



### HIGHLY COMMENDED

#### Åkvarteren, Lomma Hamn

Client: Skanska Nya Hem | Designers: Tyréns, Sydväst, Sweco  
Contractors: Skanska Väg & Anläggning Syd

**DESCRIPTION:** Åkvarteren is a 25,000 m<sup>2</sup> regeneration project to create a residential development in a former industrial landscape at Lomma Harbour, Sweden. The site is situated on an area historically reclaimed from the sea using dredging and other fill materials. The works comprise the demolition of old industrial buildings, paved surfaces, remediation to treat contamination, new water and sewage systems, construction of new access routes, foundation works for houses to be built, and landscape paving and planting. The project started in 2007 and two (of three) sections were completed and occupied by the end of 2011.

**ACHIEVEMENTS:** Desk-study and sampling of soils on or below ground level to establish pollutants and pollution levels throughout the site for mass balance on site; 100% reuse of sand, tarmac, bricks and concrete within the project; 5,000 tonnes of tarmac and 3,500 tonnes of concrete have been beneficially reused within the site; 75% reuse of excavated materials within the project; Preservation of existing willow trees along the river promenade.

**JUDGES' QUOTE:** *The use of an innovative "Sudoku" grid style approach to the categorisation of contaminated materials has resulted in the implementation of a practical system on a relatively modest scale project. This has resulted in significant re-use of contaminated material and no requirement for imported virgin material.*



# 3. Landscape

## WINNER

### Olympic Park: Parklands and Public Realm

Client: Olympic Delivery Authority | Designers: Atkins & Arup  
Contractor: BAM Nuttall / Skanska

**DESCRIPTION:** The London 2012 Olympic and Paralympic Games were part of a long planning strategy to create a strong Legacy for the local area. The Olympic Park demonstrates an extraordinary transformation – remediated and re-profiled land and with the infrastructure to enable the regeneration of existing communities in the post-games period. In addition, there are wider environmental benefits for biodiversity, the local economy, improved transport, cycle and pedestrian infrastructure and the functionality of waterways and surrounding green spaces. An initial phase of the programme was the enabling works contract, which allowed the Olympic Delivery Authority (ODA) to successfully initiate regeneration and eventually bring over 75% of the brownfield site back into use as parkland for the community.

**ACHIEVEMENTS:** Construction of reinforced concrete outfall structures which connect to the drainage systems running through the landscaped area of the Olympic Park, carrying surface water runoff to the River Lea; More than 4,000 semi-mature trees planted; Construction of swales for drainage up to and including a contour of 4.00 metres; Habitat installations that meet the requirements of the Biodiversity Action Plan (BAP) design in time for the Games.

**JUDGES' QUOTE:** *It is clear that there was a very thorough analysis of the landscape needs and a very high level of rigour applied to making the landscape work. Landscape usually suffers from budgetary and time constraints but in this case it is clear it has not; this project is a clear example of providing a good legacy.*



# 4. Ecology & Biodiversity

## WINNER

### Farringdon Station Redevelopment

Client: Network Rail | Designer: Atkins | Contractors: Costain / Laing O'Rourke

**DESCRIPTION:** As part of the Network Rail £6 billion Thameslink Programme, London Underground's Farringdon Station was transformed in order to facilitate increased Thameslink train and passenger capacity (50% longer trains and trebling of frequency enabling 14,500 extra passengers a day in 2018), to improve accessibility for persons with restricted mobility, and to deliver advanced works and full integration for the Crossrail programme. Protecting and enhancing biodiversity formed one of the Thameslink Programme's nine sustainability objectives and the Farringdon Station project achieved 100% for ecology under CEEQUAL, despite the project not having a particular impact on ecology and no ecological sensitivities being identified. This was largely due to the integration of a living roof into the station's design, a first for the Thameslink thus setting the standard for best practice in ecology and biodiversity across the programme.



**ACHIEVEMENTS:** Ecological surveys carried out despite classified as 'low ecological value', which identified potential roosting opportunities for bats and black redstarts; Inclusion of a living roof in the design of the new station building because this would increase foraging opportunities for these (and subsequently, other) species; The living roof also contributes 20% of the London Borough of Islington's annual Biodiversity Action Plan target for habitat creation; It also led to savings of £40,000 compared to a zinc roof.

**JUDGES' QUOTE:** *This project is a great example of habitat creation as there was nothing of significance on the site previously. It also demonstrates how an urban project can make use of their roof area for ecological benefit – a clearly outstanding exemplar for other designers to follow.*

## HIGHLY COMMENDED

### A487 Porthmadog Minffordd & Tremadog Bypass

Client: Welsh Government | Designers: Halcrow / Hyder  
Contractors: Balfour Beatty / Jones Brothers JV

**DESCRIPTION:** The popular seaside town of Porthmadog and neighbouring villages of Tremadog and Minffordd have been congested for many years by heavy through traffic using the A487 strategic north/south trunk route. The recently completed 5.3km, £40 million bypass scheme has provided the relief that the local population needed. Porthmadog lies on the edge of the Snowdonia National Park. The route of the A487 Porthmadog bypass potentially affected the Llyn Peninsula and The Sarnau (SAC), the Meirionnydd Oakwoods and Bat Sites SAC, the Afon Glaslyn and Morfa Harlech SSSIs, the Traeth Glaslyn Wildlife Nature Reserve and various local Conservation Areas. As a consequence, the choice of the bypass route inevitably affected the local flora and fauna. From the outset, the sheer number and magnitude of ecological issues within this 5.3km bypass project was daunting. However, a comprehensive management system enabled the team to achieve outstanding results in protecting and enhancing the ecology and biodiversity.

**ACHIEVEMENTS:** Spending £750,000 the Project Team designed and installed a green bridge to prevent bats dipping down into the flow of traffic and to enable it to be used as a crossing point for various species which, in time, is expected to become a fully vegetated ecological feature; Disposed of 8,500m<sup>3</sup> of Japanese knotweed-infested soil – minimising the risk of spread, avoided taking landfill space, saved 1,700 40 mile HGV journeys, 31,000 litres of diesel and 82 tonnes of CO<sub>2</sub>; Constructed 150 refugia in the 3,000m of new stone walling to promote reptile habitats; Approx 670m of new hedgerow was planted along with 3,500m of linear scrub planting.

**JUDGES' QUOTE:** For the scale of project, the team have demonstrated a very high level of detail across a wide range of species in their ecological mitigation activities.



## HIGHLY COMMENDED

### White Cart Flood Prevention Scheme

Client: Glasgow City Council | Designer: Halcrow Group  
Contractor: Volker Stevin

**DESCRIPTION:** The White Cart Water Flood Prevention Scheme protects 1,750 properties and businesses in the south of Glasgow from the risk of flooding and over £100 million flood damages. In 2002, the development of a flood alleviation scheme commenced based on a holistic catchment management principle looking for a solution that stretched beyond the city boundaries. The scheme includes three rural flood storage areas, which created an opportunity to enhance biodiversity through the formation of new wildlife habitats. Those new habitats include new woodlands and over 90,000 square metres of diverse species-rich wet grasslands, shallow scrapes and ponds, as well as artificial badger setts and otter holts, and the erection of many bird and bat boxes.

**ACHIEVEMENTS:** Extensive environmental studies carried out over several years, such as: habitat surveys, protected species surveys, surveys for flora identified in Local Biodiversity Action Plans, fish and invertebrate surveys, trees and hedgerows surveys and surveys of any other features of ecological interest; Planting of 6,000 trees; Invasive species treatment prior to construction.

**JUDGES' QUOTE:** So often achievement of the flood prevention objective of a project such as this becomes all-consuming at the expense of other environmental factors. However, in this case the design of culverts focused on maintaining and enhancing species mobility. It is clear that a great deal of thought went into the ecology and biodiversity aspects of this project.



# 5. The Historic Environment

## HIGHLY COMMENDED

### Farringdon Station Redevelopment

Client: Network Rail | Designer: Atkins  
Contractors: Costain / Laing O'Rourke

**DESCRIPTION:** Farringdon Station is a £290 million complex major redevelopment at the hub of London's transport investment, the point at which north-south Thameslink meets east-west Crossrail. Protecting and enhancing cultural heritage formed one of the Thameslink Programmes nine sustainability objectives and for London Underground's Farringdon Station the most significant impact of the work was due to the importance of the building's heritage. The building is Grade II listed, but railway stations in Greater London are under the direction of English Heritage (EH) and therefore the determination process is the same as for a Grade I listed building. The work that was carried out with regard to the historic environment helped the project to score 100% in this section of the CEEQUAL assessment, whilst also setting standards for best practice across the programme.

**ACHIEVEMENTS:** Undertaking baseline surveys and historic recording reports throughout the site; Heritage exhibitions were held for the public in shop fronts when station reopened; Used traditional building materials, such as lime plaster containing horse hair, to match past building materials; Constructing traditional brick arches which are no longer widely used in the construction industry, to match past building techniques.

**JUDGES' QUOTE:** The Project Team have unearthed the qualities of the building and have lovingly restored this station to fit a modern design. It is clear that the transport planning objectives have been well balanced with the wider needs of maintaining and enhancing a public space.



# 6. Water Resources & the Water Environment

## HIGHLY COMMENDED

### Olympic Park: Parklands and Public Realm

Client: Olympic Delivery Authority | Designers: Atkins & Arup  
Contractor: BAM Nuttall / Skanska

**DESCRIPTION:** The London 2012 Games were the catalyst for transforming a 2.5-square-km site of previously mixed industrial use in east London, much of which was heavily contaminated. Seven waterways traverse the Olympic Park. From an early stage in the project, the existing waterways were incorporated into the design. The discharge philosophy for the surface water drainage encouraged the incorporation of existing outfalls and watercourses where possible to minimise the complexity and cost of the on-site drainage systems. The water reduction strategy for the north of the Park was based on a planting regime that would not require long-term irrigation.

**ACHIEVEMENTS:** A surface water drainage strategy was developed to enhance and protect the water environment, mitigating the risks of groundwater contamination and reducing potential impacts to groundwater and human health; Consultations with the Environment Agency and British Waterways at early stage for drainage design principles; SuDS components were provided at key locations in the Olympic Park which included an innovative system of porous asphalt strips, filter drains, bioswales and frog ponds. Over 33,000 metres of Aqua Dyne was used in ground stabilisation throughout the site, equivalent to 184 tonnes of waste plastics being diverted from landfill and incineration.

**JUDGES' QUOTE:** *Even though it is the size and scale of this project that makes the SuDS outstanding, the techniques applied are scalable to even the smallest of developments.*



## Flood Risk

### WINNER

#### Bickershaw South Infrastructure

Client: Homes and Communities Agency | Local Authority: Wigan Council  
Designers: URS / AMEC Environmental | Contractors: Birse Civils / Balfour Beatty



**DESCRIPTION:** Bickershaw South Infrastructure was a key regeneration project in Leigh, near Wigan. The purpose of the project was to remediate the contaminated 18ha former colliery site and to provide primary infrastructure for future commercial and residential re-development, thus improving the economic prospects, environmental appeal and long-term sustainability of the local area. Works included provision of a sustainable urban drainage system (SuDS), which was developed to create both a natural attenuation to slow water flow (thus removing flood risk) and an enhanced amenity feature. One of the major achievements is that the team have transformed a derelict, dilapidated site that contributed to local flooding into a high quality amenity space with a well-managed, aesthetically pleasing water network, which is now attracting inward investment.

**ACHIEVEMENTS:** Implemented a system able to manage 1:100 year flood conditions (plus 20% for climate change adaptation); Two temporary lagoons created on site early in the construction phase to intercept surface and rain water and to minimise the requirement for potable water consumption; Development of a new marina for public use and enjoyment.

**JUDGES' QUOTE:** *This project demonstrates a very responsible and proactive response to flood risk management in preparing the area for future development. This project sets the tone for what sustainable water management should look like in the future.*

## Site Water Management

### WINNER

#### A470 Cwmbach to Newbridge on Wye

Client: Welsh Government – Transport, Housing & Regeneration  
Designer: Jacobs Engineering | Contractor: Alun Griffiths

**DESCRIPTION:** The Cwmbach to Newbridge-on-Wye scheme is located in rural Powys on the A470, approximately 2km north of Builth Wells. It consists of the offline improvement of 6km of sharply undulating single carriageway trunk road and removes the constraints to the network caused by a restricted height rail overbridge at Cwmbach and the traffic signal-controlled River Ithon





Bridge. During the project's Design Phases (Key Stages 4 and 6), it was appreciated that due to the undulating nature of the site, the presence of clay soils and the sensitivity of the receiving waters, a key impact from the project would be silt contaminated runoff from exposed earthworks areas – so particular emphasis was placed on pollution control planning for the project.

**ACHIEVEMENTS:** Storage of grey water during winter months for dust suppression during summer months was considered early in the project; Appointment of a dedicated Environmental Response Team with sole responsibility for undertaking environmental mitigation and installing pollution control measures; The use of 'Silt Fence' to control runoff at source and filter and direct it away from sensitive receptors and into further mitigation; Straw bale and geotextile filters were used to treat runoff and water pumped from excavations.

**JUDGES' QUOTE:** For a modest sized project, the team have demonstrated how some high-level water treatment technology, usually only seen in the water industry, can be applied in the construction industry to achieve high levels of site water management and pollution prevention.

## 7. Energy & Carbon

### WINNER

#### Blackfriars Bridge and Station Refurbishment

**DESCRIPTION:** As part of the Network Rail £6 billion Thameslink Programme, Blackfriars Station was transformed in order to facilitate increased Thameslink train and passenger capacity (50% longer trains and trebling of frequency enabling 14,500 extra passengers a day in 2018). Restricting carbon emissions formed one of the Thameslink Programmes nine sustainability objectives. The Blackfriars Station project examined a number of options to meet this objective and, following detailed evaluation, the team established that the provision of photovoltaic (PV) roof cells spanning the bridge's roof canopy would be the most suitable option. The incorporation of PV cells at Blackfriars Station is a flagship project, creating the 'world's first solar bridge' and demonstrating the benefits of solar power and renewables on Britain's rail network.

**ACHIEVEMENTS:** Over 4,400 PV panels spanning the bridge have been installed – over 6,000m<sup>2</sup> of PV panels onto the new roof of the historic structure; Energy generated by the cells will reduce carbon dioxide emissions by 550 tonnes a year, equivalent to flying from London Heathrow to Paris (return per passenger trip) >4500 times; By redesigning the construction's power supply, the team saved approximately 2.8 tonnes of CO<sub>2</sub>, £1200 per week in hire costs and reduced fuel movements.

**JUDGES' QUOTE:** This project demonstrates clearly how projects can be designed to incorporate renewable energy generation. It will surely be looked at as an exemplar of how a shift to a low carbon economy can be delivered in the future.



[Source: B, 1984]

Client: Network Rail | Designers: Jacobs Engineering / Tony Gee & Partners  
Contractors: Balfour Beatty Civil Engineering

### HIGHLY COMMENDED

#### Olympic Park: Structure, Bridges and Highways

**DESCRIPTION:** The London 2012 Games saw the transformation of a 2.5-square-km site of previously mixed use, industrial land in east London, much of it heavily contaminated. The structures, bridges and highways construction works for North Park, South Park and Wetland Bridges provided the backbone to the vital infrastructure. The 2012 Olympic Park includes 20 km of roads, 13 footbridges, some with temporary sections, 11 km of retaining walls, seven highway bridges and six underpasses. The design and construction of the structures, bridges and highways was a vital component of the pre-Games construction logistics, essential for Games operations and a key part of future legacy use of the Olympic Park. The ODA lighting strategy set high-level requirements for energy performance in design and reducing carbon emissions during operation. There is a combined heat, cooling and power plant on the site, which provides power to the site with a biomass boiler and gas-fired boiler.

**ACHIEVEMENTS:** 50% carbon reduction from concept to final design of the underpass U01; 9% carbon reduction in the loop road redesign; 26% carbon reduction as a result of the bridge optimisation through material selection and a reduction in the number of bridges; 90% carbon reduction of the kerb selection; Direct carbon dioxide (CO<sub>2</sub>) emissions have been reduced by 50% and cost savings of 12% achieved.

**JUDGES' QUOTE:** The Project Team have demonstrated very clearly how consideration of the embodied energy and carbon management of materials should be incorporated into project decision making. They have provided an approach that all can follow in the future.



[Source: inmalan]

Client: Olympic Delivery Authority | Designers: Atkins & Arup  
Contractor: BAM Nuttall / Skanska | Artist: Martin Richman  
Lighting: Atkins | Bridge Architect: Allies and Morrison

# 8. Material Use

## WINNER M74 Completion Project

Client : Glasgow City Council | Designers: Jacobs / Atkins JV | Contractor: Interlink M74 JV (Comprising of Morrison Construction, Balfour Beatty, MorganSindall & Sir Robert McAlpine)

**DESCRIPTION:** A £445m new-build project, constructing 8km of motorway with 13 bridges and 4 grade-separated junctions joining the previous end of the M74 to the M8 in Glasgow. The completed scheme provides a ring of motorway around Glasgow, removing some 20,000 vehicle movements per day from the Kingston Bridge and alleviating wider congestion in the city.

**ACHIEVEMENTS:** First project site in Scotland to voluntarily adopt Site Waste Management Plans as Best Practice (WRAP); Remediation and re-use of 43,000 m<sup>3</sup> of Chromite Ore Processing Residue; Importation of 500,000 tonnes of locally sourced recycled aggregates; 2.5 million tonnes of structural fill drawn from secondary sources; Recycling rate of 81% achieved during construction phase, reducing waste disposal costs by 50%; 300,000 m<sup>3</sup> of clay which was dug out from under Cathcart Road (the only structure which is an overbridge) was used as structural fill within the project.

**JUDGES' QUOTE:** *This project had a primary focus on the use of materials from secondary sources. The substantial majority of this was sourced locally from other projects. Achievement of this strategy also required the stabilisation of large quantities of contaminated ground.*



## HIGHLY COMMENDED M25 Widening J16–23 & J27–30 & Hatfield Tunnel Refurbishment

Client: Highways Agency | Designers: Atkins, Ramboll, WSP  
PFI Contractors: Skanska Balfour Beatty JV, Connect Plus

**DESCRIPTION:** The project developed an innovative waste and materials procurement strategy to deliver significant environmental and financial benefits. The widening scheme was a 'net-waste importer' utilising 2.4 million tonnes of recycled and secondary aggregates accounting for 92% of the total imported material – saving over £15million when compared to traditional materials and methods.

**ACHIEVEMENTS:** 100% of inert earthworks materials reused on site; 3.6 million tonnes of waste diverted away from landfill; 50% of existing Environmental barrier retained; 100% existing central reserve concrete barrier retained.

**JUDGES' QUOTE:** *The implementation an innovative materials procurement strategy has enabled the project to reuse vast volumes of existing materials and make the project a net importer of waste, something that every construction project should aspire to.*



## HIGHLY COMMENDED Falkland Islands Runway Resurfacing Project

Client: Defence Infrastructure Organisation | Designer: Mott MacDonald  
Contractor: Colas

**DESCRIPTION:** The project entailed rehabilitation works of the airfield pavements and Aeronautical Ground Lighting at Mount Pleasant Airfield (MPA), Falkland Islands. MPA forms part of Mount Pleasant Complex (MPC) and is the most recent purpose-built airfield in the RAF estate. Along with its military role, MPA also acts as the Falkland Islands' only international airport. Through actions such as minimising material use, material storage, minimising waste, sub soil and top soil management, the project scored 100% in this section of the CEEQUAL Assessment.

**ACHIEVEMENTS:** Locally sourced aggregate production – avoiding the import of 30,000 bags of aggregate from an overseas supplier; Aggregate storage plan was produced with consideration of the prevailing winds expected in the Falkland Islands; The re-use of material eliminated any waste and further reduced the quantity of virgin aggregate (bedding sands) that would have been imported from the UK.

**JUDGES' QUOTE:** *The team worked hard to avoid importing materials from overseas. These efforts included challenging the specification to promote resource efficiency and to enable local materials to be utilised. This included the use of a significant amount of secondary aggregates, which in turn eliminated waste from the project.*



# 9. Waste Management

## WINNER

### A46 Newark to Widmerpool

Client: Highways Agency | Designer: URS | Contractor: Balfour Beatty Major Projects Division

**DESCRIPTION:** This £375m Highways Agency ECI project included constructing a 17-mile two-lane carriageway from the A606 two-level junction at Widmerpool to an improved roundabout at Farndon. With waste management high on the Project Team's agenda, a cut and fill balance was designed to realign the road. Excess spoil was stored and used for landscaping, noise and visual intrusion bunds. Measured impacts included avoidance of import and export of material through the reuse of excavated soil.

**ACHIEVEMENTS:** Fifteen waste streams segregated at source for recycling; First Major Balfour Beatty Project to achieve Zero Waste to Landfill ten years ahead of the Balfour Beatty 2020 Zero Waste to Landfill Vision and two years before the WRAP Halving Waste to Landfill target; 27% recycled aggregate content.

**JUDGES' QUOTE:** *It is very clear that the Project Team had waste minimisation as a goal from the outset. As a result, they significantly outperformed Balfour Beatty's own Zero Waste to Landfill by 2020 by 10 years and WRAP's Halving Waste to Landfill by 2012 by two years.*



# 10. Transport



## WINNER

### Falkland Islands Runway Resurfacing Project

Client: Defence Infrastructure Organisation | Designer: Mott MacDonald  
Contractor: Colas

**DESCRIPTION:** This project entailed rehabilitation works of the airfield pavements and Aeronautical Ground Lighting at Mount Pleasant Airfield (MPA), Falkland Islands. The principal constraint of the project was that the airfield would remain active throughout the duration of the works. The works were designed, programmed and executed to meet the clients' constraints and those associated with a project situated in a remote location, and was completed with no impact to military or commercial operations. Through positive actions on logistics, site set up, site access, local provision of accommodation for the contractors' workforce, monitoring and reporting, the project scored 94% in this section of the CEEQUAL section.

**ACHIEVEMENTS:** Avoided over 20 potential ship movements by locally sourcing aggregate, tools and other materials; Contractor allocated two on-site hangers for storage to avoid unnecessary transport movements or transport distance; During the works, the Contractor utilised the contract traffic route plan for the safest way to access site, while all personnel were instructed not to use the domestic complex as a through route, with a view of reducing noise, pollution risks and preserving safety.

**JUDGES' QUOTE:** *Delivering a project of this nature in such a remote location is no mean feat. Not only did the team minimise material deliveries (as covered in the materials section) but they also managed to keep this vital piece of transport infrastructure open for flights for the duration of the project.*

# 11. Effects on Neighbours

No nominations were received in this category that the Judges considered demonstrated anything innovative or beyond compliance with the law.

# 12. Relations with the Local Community & other Stakeholders

## WINNER

### Glencorse Water Treatment Works

Client: Scottish Water | Designers: BDP / Black & Veatch / ERM | Contractor: Black & Veatch

**DESCRIPTION:** The £130m Glencorse Project involved construction of a 175 million litre per day water treatment works and 15km of pipeline on greenbelt land to the south of Edinburgh. Buried structures, a low profile design and Scotland's largest grass roof ensure that the finished works is almost invisible from the surrounding countryside, maintaining the rural scene for local residents and the many users of the neighbouring Pentland Hills Regional Park. Consulting local residents, schools, archaeologists, community councils, planning authorities and many other stakeholders, Scottish Water's largest ever consultation exercise was undertaken. The team worked sensitively with the numerous businesses and customers, from speaking at Community Council meetings, to inviting local residents to regularly tour the construction site, from undertaking an extensive Education Programme to enhancing the recreational facilities of the Pentland Hills Regional Park. The aim was to add value to the local community at every stage of the project. An independent audit carried out confirmed the project's success in carrying out an exemplary public consultation in support of the New Works Planning Application.



**ACHIEVEMENTS:** Constructing a tunnel beneath the City of Edinburgh Bypass avoided disruption to hundreds of thousands of travellers; a number of opportunities to volunteer within the community were developed by the team (including: fundraising for local disabled sports group; activity to refurbish picnic area at Pentland Hills Regional Park; assistance with creation of garden at local vet school).

**JUDGES' QUOTE:** *This project clearly had both a significant and influential positive impact on the local community and in particular the schoolchildren. The Project Team went the extra mile and succeeded in demonstrating that rather than creating a nuisance this project is a 'once in a lifetime opportunity' for learning. Through their transparency and sincere commitment, the team has inspired school children to become civil engineers and construction professionals of the future; an outcome that the whole profession should strive to achieve.*

## HIGHLY COMMENDED

### White Cart Flood Prevention Scheme

Client: Glasgow City Council | Designer: Halcrow Group | Contractor: Volker Stevin

**DESCRIPTION:** The White Cart Water Flood Prevention Scheme significantly reduces the risk of flooding to 1,750 properties and businesses in the south of Glasgow, avoiding potential flood damages of more than £100 million. Consultation and partnership working was a key aspect of the development and the selection of the components that make up the final scheme. Through one-to-one discussions and an extensive public exhibition, the views and opinions of affected parties were obtained and, where possible, incorporated within the design. The community has been involved and where possible the design has been amended to suit their wishes. The community was actively involved in the alignment of the flood defence wall to minimise impacts on property boundaries and access to the river. This involvement continued during the construction phase, where design changes requested by the community were still considered and implemented.



**ACHIEVEMENTS:** Providing talks on safety and the environment to local schools; Delivering presentations for students at Glasgow and Heriot Watt Universities; Building a car park for a local angling club; Logging wood for a landowner; Results of public/stakeholder consultations, comments and complaints were all recorded and actioned where appropriate.

**JUDGES' QUOTE:** *The team demonstrated a high level of engagement with a very wide range of stakeholder and community groups. It is clear that this dialogue was sincere and included discussions on fundamental aspects of the project. This approach resulted in excellent community relations and clearly demonstrates the benefits of collaborative working.*

# An Appreciation to Eric Hughes BEng CEng FICE MCIWEM CEEQUAL Chairman 2006-2013



Eric Hughes stands down as CEEQUAL Chairman, and from the CEEQUAL Board, in June 2013. He has been only CEEQUAL's second Chairman and has guided, supported and occasionally cajoled the Board and Scheme Management Team for almost three-quarters of CEEQUAL Ltd's existence. We owe him a huge (hughes!) debt of gratitude!

CEEQUAL's progress during Eric's Chairmanship can be succinctly summarised like this:

	Mid 2006	Early 2013
Applications for formal verified Assessments	51	447
Construction Value of the projects and contracts that have applied for Assessments	£1 billion	£22 billion
Completed Verified Assessments	13	243 including 66 Interims
Methodology Version	3	5
No. of Assessor Training Courses / Assessor Trained	19 / >200	100 / >1000

Whilst this performance has been delivered by the Scheme Management Team, Eric's steadfast, warm support and influence has been extremely important to our success.

It is because of that background, I and my colleagues decided that we wished to mark Eric's time and retirement as Chairman with a special Outstanding Achievement Awards Trophy, which I and his successor, ICE Past president Richard Coackley have great pleasure in presenting to him at the Awards Dinner.

A graduate of Sheffield University, Eric's career as a civil engineer spans more than 45 years. Most of that time was with BAM Nuttall, then Edmund Nuttall, but in his earlier career after graduate training with John Laing, he spent almost 10 years with the then Binnie and Partners, including around 3 years in Hong Kong.

After no-doubt challenging spells as an Agent on three contracts, Eric joined the Nuttall Head Office team and progressed through the estimating function to become Deputy Chief Estimator. Then in 1989, Eric was appointed Director of Engineering of Nuttalls – a post for which he was by then manifestly suited, in terms of the formal qualifications, industry experience and management skills, which we all came to admire in the years that followed.

Like so many civil engineers, Eric was not just content to contribute to the success of his employer but also did – and continues to do – the same for the Institution of Civil Engineers. Eric spent a total of six years on the ICE South Committee including a year as Chairman. He was then ICE Council Member for the South Region, and then in 2004, Eric joined the Fellowship Panel and was elected Chairman in 2010. And that brings us full circle to his nomination as the ICE-nominated Director of CEEQUAL, and his election by his Board colleagues to its Chairmanship.

Eric – Thank you!

Roger Venables, CEEQUAL Chief Executive



Eric (centre-right) presenting CEEQUAL awards at the ICE, London

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Eric Hughes Award for



# OUTSTANDING CONTRIBUTION TO IMPROVING SUSTAINABILITY IN CIVIL ENGINEERING



## Olympic Park, London

Summer 2012 saw the largest international sporting event take place in our back garden. With the whole world looking at London, the 2012 Olympic & Paralympic Games had to impress... and they outstandingly did.

Any Olympic Games have the power to bring together the aspirations of the finest athletes on earth and the efforts of hundreds of thousands of individuals who create the stage for their performances. It has the power to revitalise communities and shoulder the hopes and dreams of billions of people around the world who watched with bated breath.

Record breaking on and off the track, the organisers designed and constructed the most sustainable Olympic and Paralympic facilities ever built, on time and budget and to high sustainability standards. The Olympic Park is the largest new urban parkland in Europe for 150 years and more than 60% of construction materials were brought to the site by rail or river to build it. The Olympic Park is a 2.5 square-km site featuring a number of waterways and links to surrounding areas via highway, cycleway and rail networks.

Under a contract from the Olympic Delivery Authority (ODA), all of the civil engineering, landscaping and public realm works at the Olympic Park were assessed and verified using CEEQUAL in 17 separate package assessments, all achieving 'Excellent' rated awards. These individual assessments included the 'Enabling Works (North & South

Areas), the Landscaping and Public Realm in the South and North Parks, the District Heating and Cooling Network, Overbridges and Stadium Bridges, and the Primary Foul Sewer and Pumping Station. The scores from the individual assessments were aggregated on a construction-value weighted basis, giving an overall weighted score of 93.8%.

London 2012 is the first Summer Olympic and Paralympic Games to measure its carbon footprint over the entire project term. By using the outcomes of the footprinting assessment to inform decision-making, the ODA radically improved their ability to avoid, reduce and substitute carbon emissions associated with delivering the Games. This is just one example of how the 2012 ODA reached an outstandingly high level of sustainability improvement.

By using independent sustainability assessment tools like CEEQUAL, project teams can change their ethos and, ultimately, improve their decision-making when planning and executing projects and maintenance works. Such tools can open their eyes to the wider repercussions that may be caused – such as the remote environmental and social impacts of winning the materials we use from the planet – which ultimately can also have significant economic benefits in the long as well as the short term. Managed effectively, civil engineering has every opportunity to provide a sustainable legacy in the ability of humanity to deliver development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

As work packages within the Park have been completed, the Olympic Delivery Authority and their consultants and contractors have received a total of eight CEEQUAL Outstanding Achievement Awards, earned 17 'Excellent' rated CEEQUAL Assessments and, in the opinion of this year's independent Judging Panel, are deserved winners of the first ever Eric Hughes Award for Outstanding Contribution to Improving Sustainability in Civil Engineering. We hope Rio can keep up the standards set by London 2012.



[Source: EG Focus]

## OUTSTANDING ACHIEVEMENTS:

- Creation of the Park involved 2.8 million UK construction professionals & provide over 4,000 long-term jobs in the new centre for technology, design and research
- Over 4 million visitors went to the Park during the Olympic and Paralympic Games, and the economic activity they generated was a noticeable increase in GDP during the summer
- After legacy works, a further projected 800,000 visitors will use the swimming centre each year
- An estimated 8,000 new homes (5 new neighbourhoods) will be built by 2014 within the Park. Additional to the new homes, 12 new schools and nurseries, 3 health centres and a new library will also be built
- The potential for healthier life styles for residents and local communities with over 35km of new pathways and cycle paths, and an equivalent of 357 football pitches worth of open parks/landscape
- The creation of the Olympic Park triggered the clean-up of 2 million tonnes of heavily contaminated earth. Likewise, with the complete regeneration of the River Lea through the Park, coupled to extensive and environmentally sensitive landscaping
- Legacy works will ensure that 6.5km of waterways will be monitored and maintained within the park
- Wildlife will be further enhanced beyond what was achieved for the Olympic Games through installation of habitats: frog ponds, kingfisher walls, bat roosts, otter holts and wild flower planting
- Use of implemented low energy features throughout the Park site, such as LED lighting, photocell switches and efficient fixtures and fittings for irrigation system
- Additional to this, the original design of the Park incorporates lighting columns with wind turbines and Photovoltaic cells which allow renewable energy to be put back on the grid



ODA receiving one of their many CEEQUAL awards



*Improving sustainability*

[www.ceequal.com](http://www.ceequal.com) | +44(0)20 3137 2379

CEEQUAL Ltd. | Registered in England No. 4568928 | Registered address: Classic House, 174-180 Old Street, London, EC1V 9BP, UK